MECCANO® Magazine

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QUARTERLY

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HAPPY 75th!

SEVENTY-FIVE, and stronger than ever – That's Meccano!

Yes, Meccano celebrates its Diamond Anniversary this year, for it was on 9th January 1901 that the late Frank Hornby, the inventor of the system applied for his first patent on the unique idea that was later to be given the now-famous name of "Meccano". Prior to this, Mr. Hornby, as a keen amateur engineer, often made toys for his two sons, Roland and Douglas. He soon learned, however, that like all children, the boys might play with a toy for a while, but tire of it after a few days and want something new to play with. How much better, he thought, if, when this happened, he could simply dismantle the toy and re-assemble the parts in a different way to make a new toy. This led him to experiment with perforated, interchangeable components and, in due course, Meccano was born.

Hornby always based his experiments on true engineering principles. In fact, in applying for his British Patent he claimed officially that his was the original application of the basic principles of engineering to a metal constructional mechanical toy, and it was on this basis that the Patent was granted.

It was of course the "Meccano" idea which was patented in 1901. The actual name, Meccano, was not coined until 1907, the system before then being marketed under the name "Mechanics Made Easy". It is thus the 75th Anniversary of the idea which we are celebrating this year – and the Company certainly plans to let everyone know about it! We have designed a special Anniversary Plaque (illustrated above) and this will be featured in every Meccano advertisement and on every piece of promotional literature produced during the year. Any radio or television advertising we might do will mention the Anniversary. in fact *everything* we do will feature it in some way if at all possible. The Plaque, itself, for instance – a giant Meccano-style baseplate 14"x9½"x2¼", with bright chrome lettering – will take pride of place on the Company Stand at the Brighton and Nuremberg Toy Fairs and it will also be displayed at many other exhibitions and promotions around the country which we

will be attending during the year. In short, we will lose no opportunity to spread the word!

There are not many products which can claim an unbroken history of 75 years. There are fewer still which can claim that, even after 75 years, the product is more successful than ever. Meccano can! As most MMQ readers will know from the difficulty of obtaining spare parts, the demand for Meccano over the past year or so has literally out-stripped our production capacity! As I say, therefore, 75 years – and stronger than ever!

Before signing off, I, on behalf of all of us at Binns Road, would like to wish all MMQ readers, advertisers and contributors a very happy and prosperous New Year. I would also like to thank everybody who sent us Christmas Cards. These were sincerely appreciated and I am only sorry that we could not reciprocate. However, it would have meant so many cards and such postal costs that the magazine would have been bankrupted! Hope you understand – but thanks, again .....

The Editor

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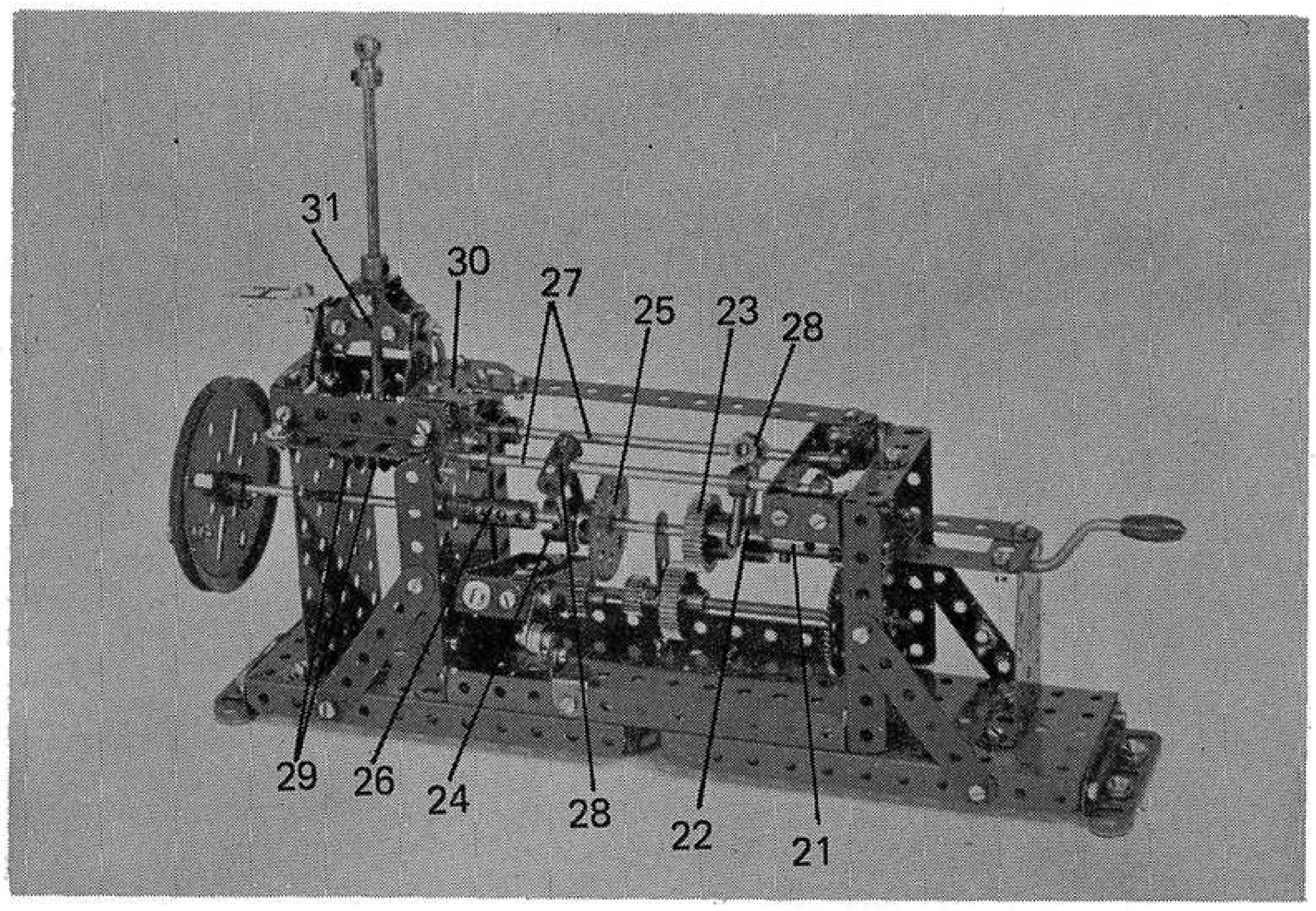
AMONG THE MODEL-BUILDERS

with "Spanner"

A section for readers from readers

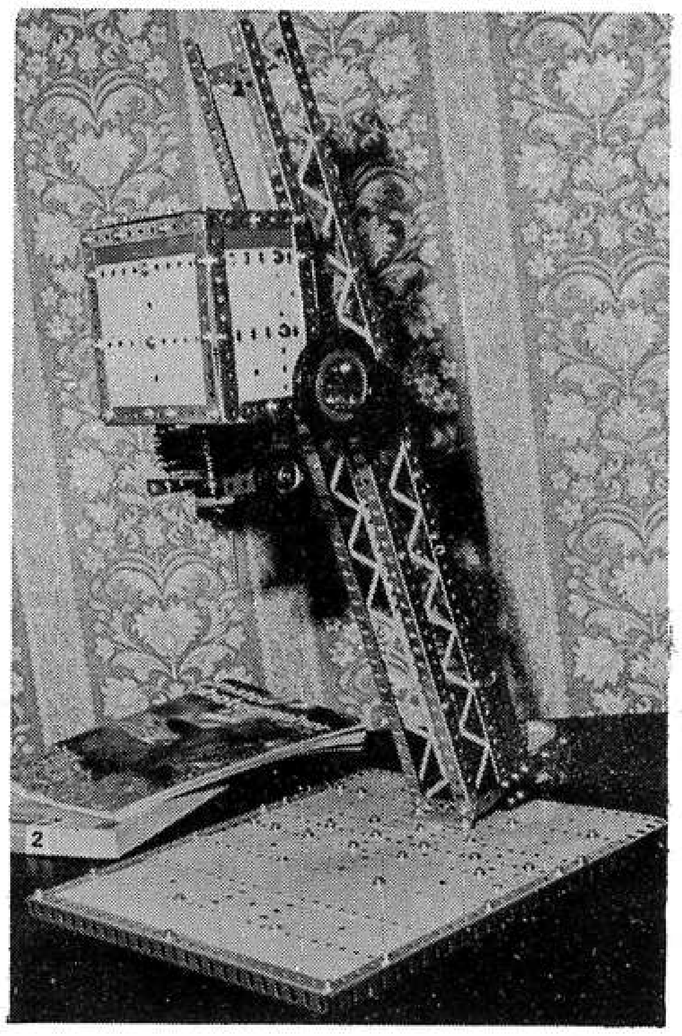


Above, a 3-speed and reverse Gearbox designed as a teaching demonstration unit by Mr Adrian Hall of Liverpool. It features an operating "H-gate" gear-change movement. Below left, a Meccano subject new to 'Spanner' is this Photographic Enlarger designed and built by Mr G. Haydn-Davies of Arnold, Notts.

IT HAS LONG been my habit, when extolling the virtues of Meccano modelling, to claim that, no matter what subject anyone cares to mention, the chances are that someone, somewhere, has produced a Meccano model of equipment in that field. I believe this to be true, though I do not claim that I have *myself* seen examples of *everything*. On the contrary, I do periodically come across something which is new to me, from a Meccano point of view, and our first item this issue is one such example – a Photographic Enlarger. I have never before seen such a model in Meccano, though some readers may have done so, and I am therefore particularly pleased to include the photograph reproduced here.

The Enlarger is the work of Mr. G. Haydn-Davies of Arnold, Notts, who tells me that it started out really as a fun item. "It is only a simple model," said Mr. Haydn-Davies, "In that it is a fixed likeness, rather than a working model. Construction is straightforward, the enlarger head being attached to the pole by an arrangement of short Angle Girders and Trunnions. Hidden parts to give weight to the base consist of (second hand) Flat and Flanged Plates – new stock where it shows! A final and possibly controversial point is the use of my wife's cooking weights at the base of the pole for added stability, these, too, being located in Flanged Plates and Trunnions. Agreed," concluded Mr. Haydn-Davies, "A rigid and sound model could be made with Meccano given sufficient time and parts!"

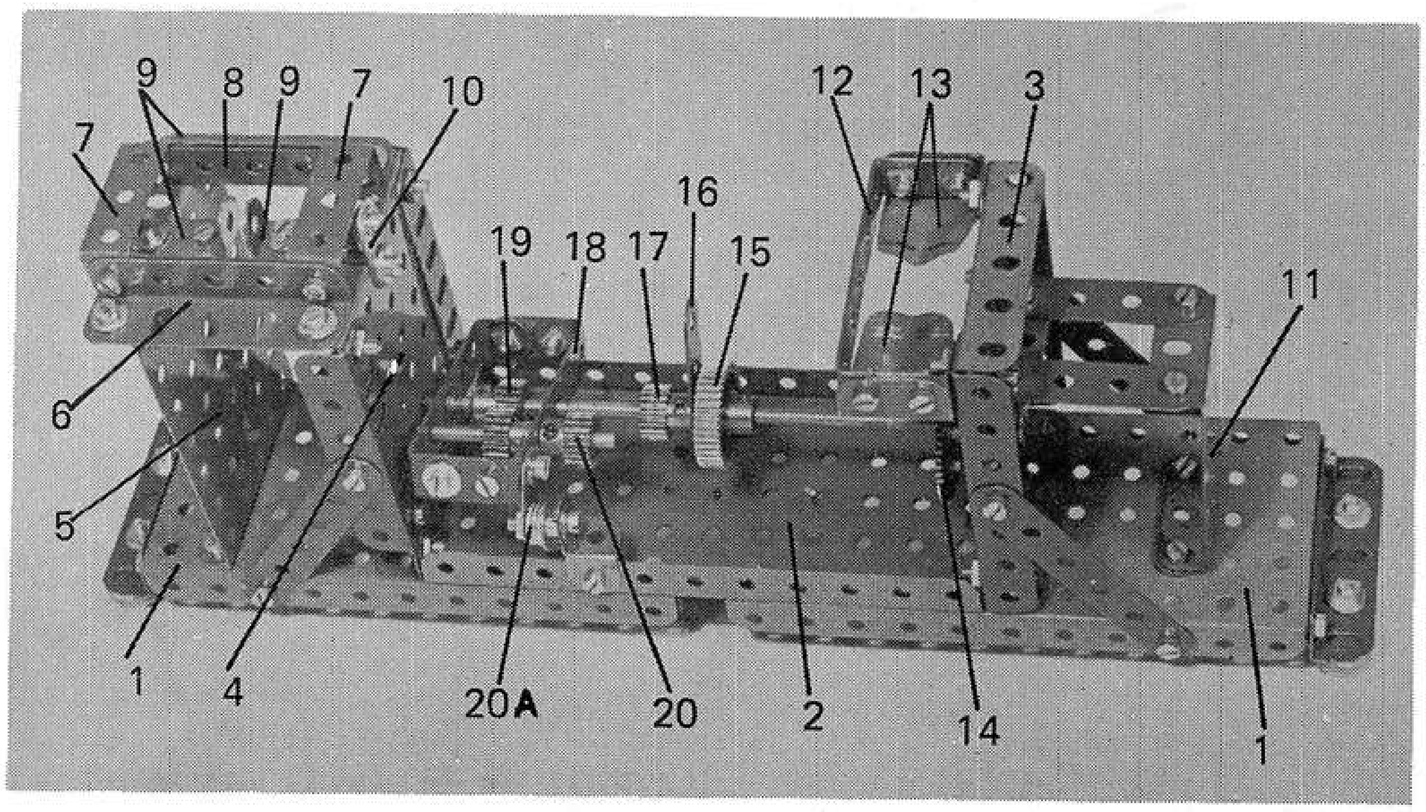
It seems to me that Mr. Haydn-Davies is being a little unfair to himself, here; his Enlarger may not be the most advanced model it is possible to produce, but it is certainly a well-proportioned and pleasing reproduction based on a most unusual subject.



DEMONSTRATION GEARBOX

Moving on to a constructional item, now, we have a 3-speed and reverse Gearbox designed by Mr. Adrian Hall of Liverpool. Mr. Hall is an educationalist in Liverpool and he developed the Gearbox as one of a series of demonstration models to illustrate the basic mechanical principles of a motor car. It is deliberately "stretched out" for demonstration purposes in group situations, but it is nonetheless an interesting unit which incorporates an "H-gate" gear-change lever. Before describing it, however, I must stress that it includes one or two non-standard parts, but Mr. Hall has suggested ways of replacing these with standard parts.

Construction of the supporting framework is fairly obvious from the illustrations. Two 5½" x 2½" Flanged Plates 1, a half-inch separating them, are connected together by a third 5½" x 2½" Flanged Plate 2. Bolted to each end flange of Plate 2 is a 3½" x 2½" Flanged Plate (Numbered 3 in one case and 4 in the other), edged by Angle Girders as shown, and braced by 3" Strips. Another 3½" x 2½" Flanged Plate 5 is bolted to the top of one Plate 1, through the second row of holes, then the upper flange of this Plate is connected to the upper flange of Plate 4 by 2½" Angle Girders 6, using the slotted holes of the Angle Girders. Bolted between the ends of Girder 6 are two 1½" x ½" Double Angle Strips 7, the securing Bolts also fixing 2½" Strips 8 between the Double Angle Strips, on the inside of



A partially-built view of the 3-speed and reverse Gearbox showing the frame with the layshaft fitted, but with the main shaft, selector Rods and gear lever omitted.

their lugs. Two 1" x ½" Angle Brackets 9 are then bolted one to the centre of the top flange of each Plate 4 and 5, these projecting inwards the fullest extent permitted by the slotted holes in the Brackets and they are prevented from swinging sideways by a ½" Angle Bracket beneath the Bracket in one case and by a Fish-plate 10 in the other case. Before tightening everything up, check that the gap between Angle Brackets 9 is sufficient to allow the width of an Axle Rod to slide through easily, while ensuring that the gap is not more than 7/32".

Towards the other end of the frame, fixed to the top of Flanged Plate 1 through the third row of holes is a 2½" x 1½" Flanged Plate 11 spaced from the Plate by a 1½" Strip. The upper flange of this Plate is connected to the upper flange of Plate 3 by 2" Strips. Two 1" x ½" Angle Brackets are then bolted to the upper corners of Flanged Plate 3, the long lugs of these Brackets in turn being connected by a 2½" x 1" Double Angle Strip 12, the securing Bolts also fixing selector rod retaining springs 13 in place. In Mr. Hall's unit these are special parts, made from old Flexible Plates cut and bent to shape, but he mentions that readers should be able to devise some sort of spring-loaded pad, the aim being to prevent the selector rods moving of their own accord, e.g. by vibration or tilting of the unit.

The layshaft, supplied by a 6½" Rod, is journalled in the third row centre holes of Plates 3 and 4 and it carries, in order, two Washers, a 57-teeth Gear Wheel 14, a 1" Gear Wheel 15, a Washer, a 1½" Strip 16, a ½" Pinion 17, a 2½" x ½" Double Angle Strip 18, another ½" Pinion 19, and a second 2½" x ½" Double Angle Strip, the lugs of which are connected to the lugs of Double Angle Strip 18 by Fishplates. The positions of the components, particularly the directions in which the gear bosses point, are shown in the accompanying illustrations. A Collar behind Plate 3 holds the layshaft in place. In mesh with Pinion 19 is a ½" Pinion on a 1½" Rod journalled in the adjacent holes of the Double Angle Strips and held in place by another ½" Pinion 20 on the inner end of the Rod, leaving enough end play to allow the Rod and thus the gears to revolve freely. This arrangement provides the reverse gear.

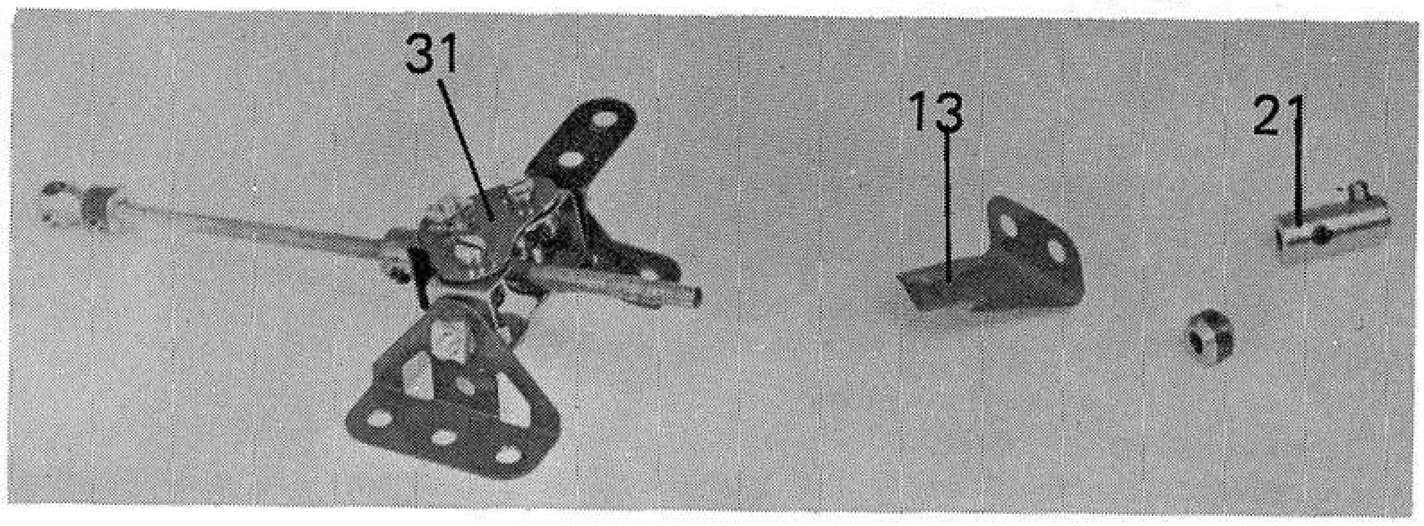
An adjusting arm 20A consists of two Fishplates pivotally connected together by a 3/8" Bolt, but separated by three Washers on the Bolt. One Fishplate is bolted to Double Angle Strip 18 and the other to a Corner Angle Bracket fixed to nearby Plate 1.

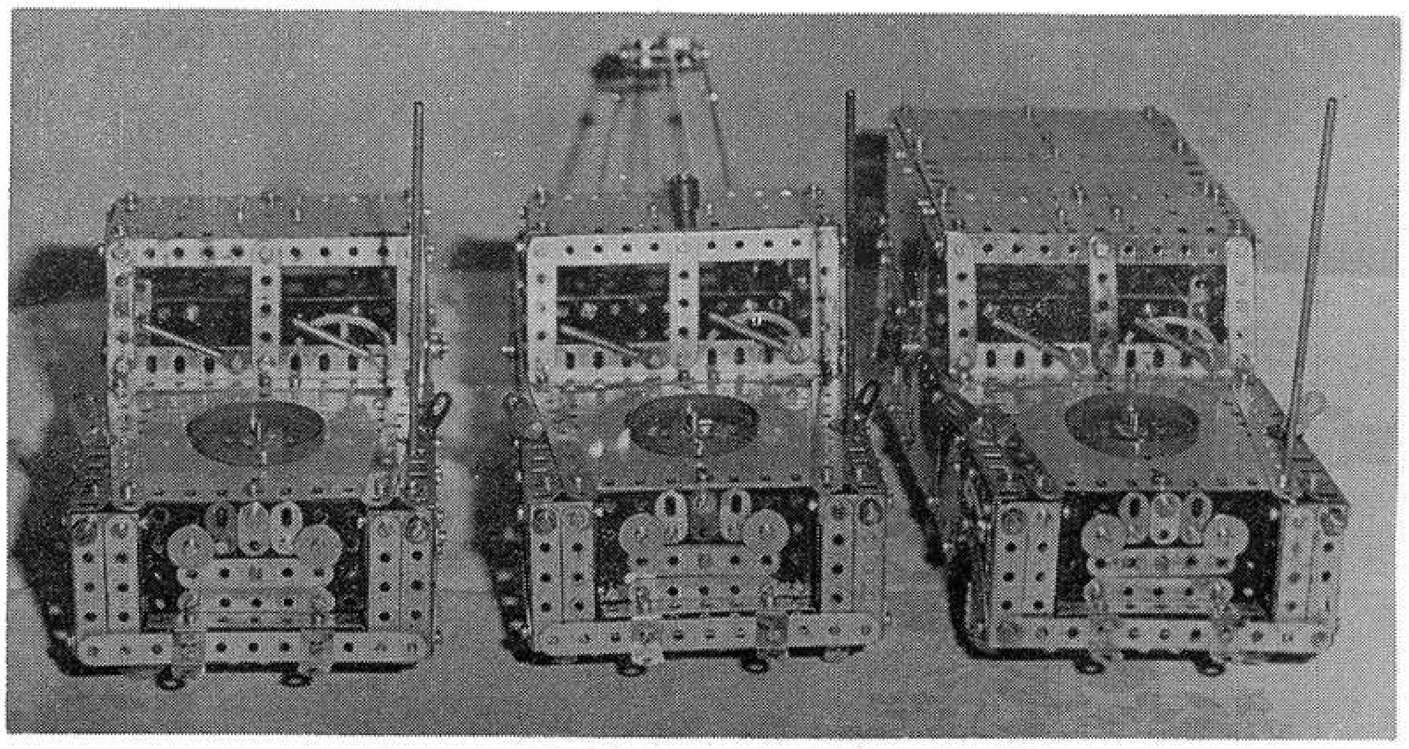
Situated above the layshaft is the main shaft, consisting of the input, centre and output shafts. The input shaft on Mr. Hall's original unit – bearing in mind its demonstration nature – is provided by a 3½" Crank Handle journalled in Flanged Plates 3 and 11. It carries, on the inside of Plate 3, a ½" Pinion, which meshes with Gear Wheel 14 and a Coupling 21, the Crank Handle protruding only half way into the bore of the Coupling. (Mr. Hall used a special coupling here, but this is not necessary.)

Free to revolve in the remaining bore of the Coupling is the centre shaft which is provided by a Rod with Keyway, which is also journalled in the end hole of Strip 16 on the layshaft. Free, in turn, to revolve on the Keyway Rod is a Socket Coupling 22, in the inner end of which a 1" Gear Wheel 23, fitted with a Keyway Bolt, is fixed. The Socket Coupling should slide on the Rod and should locate easily over the end of Coupling 21. A peg to engage in the slot of the Socket Coupling is screwed into one end threaded bore of the Coupling, but note that this must *not* grip the Keyway Rod revolving inside the Coupling. Mr. Hall used a special peg, but a Meccano shouldered bolt (from a U/V Coupling 'spider') would do the job – or a standard Bolt suitably cut down. Another Socket Coupling 24, this one carrying a 57-teeth Gear Wheel 25, fitted with a Key Bolt, is free to slide on the Keyway Rod on the output side of Strip 16. Fixed on the end of the Rod is a Coupling 26, the Keyway Rod again projecting half way into the bore of this Coupling. Note that the fixing Grub Screw should make contact with the non-keyway side of the Rod. Fixed in the remainder of the Coupling is the output shaft, provided by a 4" Rod journalled in Flanged Plates 4 and 5, with Washers being carried on the Rod between the Coupling and Plate 4 to provide any necessary spacing. A slight amount of end play should remain along the whole main shaft assembly and everything should run as freely as possible.

Sliding selector rods are provided by two 8" Rods 27, mounted in the second holes from the ends of Double Angle Strip 12 and the corresponding holes in Flanged Plate 4. Collars,

The gear lever unit and three of the special parts used in the original Gearbox: selector rod retaining spring, chamferred collar and special coupling.





Three superb Land Rover models built by Gerald Hutton of Bexhill-on-Sea: an open Pick-up, a Breakdown Truck and an enclosed 'hardtop' version. The models are all the more remarkable as Gerald is blind!

positioned as shown on the Rods act as "stops" to prevent excessive movement. (On the prototype, special chamfered collars were used, but standard Collars will suffice equally well.) Carried on each Rod is a selector fork 28 simply provided by two 1½" Rods fixed in the end transverse bores of a Coupling, the Rods engaging in the waist of one or other Socket Coupling 22 or 24. Fixed on the output end of each selector rod, between Flanged Plates 4 and 5, are two ½" Pulleys 29, with a gap between them (slightly more than the diameter of a Rod) and so positioned on the Rods that, with the Rods in the centre of their permitted movement, the gap between the Pulleys co-incides with the gap between Angle Brackets 9. The approximate positions of the Gears and Pinions on the lay and main shafts is evident from the main illustration and their exact positions can be determined later when the gear selector lever is fitted.

In building the gear lever unit, two Trunnions are bolted one to each Double Angle Strip 7, the securing Bolts in the inner case also fixing a Flat Trunnion 30 in position. Two Double Brackets are lock-nutted, one to the apex of each Trunnion, then the lugs of the Double Brackets are connected by 1" Corner Brackets 31. Lock-nutted in turn through the apex holes of these Corner Brackets is a Large Fork Piece, in the boss of which the gear lever is fixed. The lower end of the gear lever should pass through the gap between Angle Brackets 9 and locate between Pulleys 29 as desired. A Handrail Coupling is fixed on the upper end of the gear lever, as shown, then a bracing strip is finally bolted to Flat Trunnion 30, its other end being attached to the upper flange of Flanged Plate 3 by two Angle Brackets arranged to form a reversed angle bracket.

PARTS REQUIRED

1- 2	1-12a	2-27a	4- 63
4- 4	5-12b	2-31	3-111c
2- 5	2-13a	80-37	1-116
2- 6	1-14	8-37c	1-125
2- 6a	1-15	32-38	2-126
2- 9b	1-15b	1-46	1-126a
2- 9c	1-17	2-48	2-133a
2- 9d	4-18a	2-48a	1-136a
1- 9f	1-19b	1-51	1-154b
5-10	1-19s	3-52	1-79
2-11	4-23a	3-53	1-230
1-12	5-26	6-59	2-231

FANTASTIC!

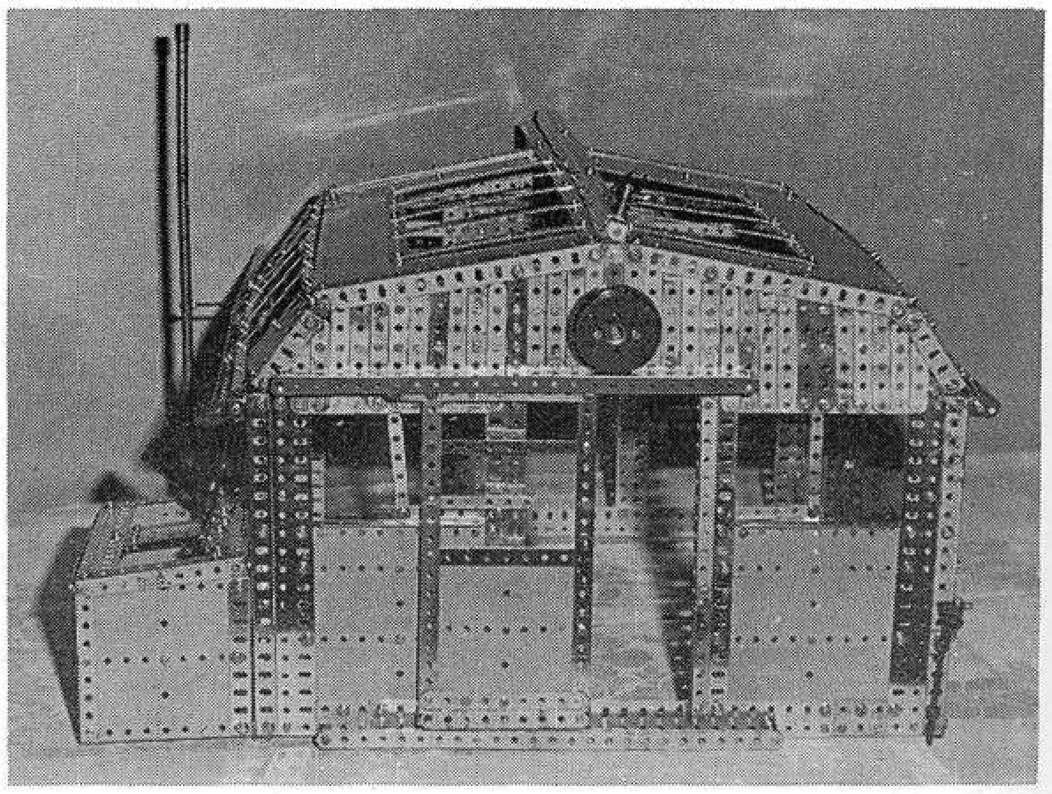
Giving a full description of Mr. Hall's Gearbox has used up most of my alotted space, but I still have enough room remaining to mention a couple of other things which I am sure will be of interest. I would first of all like to draw your attention to the fantastic models illustrated on this page – 3 Land Rovers and a "Shed". I use the word 'fantastic' quite deliberately, here, because all the models have been built by a Meccano enthusiast who has been virtually totally blind for years! They are the work of Gerald Hutton of Bexhill-on-Sea, Sussex, who, in view of his disability, I do not hesitate to describe as one of the most amazing members of the whole Meccano fraternity.

A prolific constructor, Gerald builds his models either from his imagination, from verbal descriptions given to him, or from memory (he has not always been blind). The three beautiful Land Rovers, for instance, are built from memory and I think all readers will agree that their quality speaks for itself. They reproduce an Open Pick-up, a Breakdown Recovery Wagon and an enclosed 'hard top' version and all are fitted with radiator grille, front and rear bumpers with towing attachments, headlamp, side lamp and stop/tail lamp representations, radio aerial, seating, steering, wing mirrors, etc. There is even a representation of a radio under the dashboard in the cab! The Breakdown Wagon is complete with a working winch and a simulated warning light on the cab roof. The Work Shop was built from his imagination and, although Gerald tells me that it was never actually completed, the picture shows it to be a pleasingly-proportioned building with a sliding door, guttering and a fuel bunker at the side, complete with opening lids.

The Work Shop and Land Rovers are only a few of the many models Gerald has built, but they speak volumes for his skill!

OIL-DRILLING SHIP

Also reproduced here is a photograph of an Oil-drilling Ship built



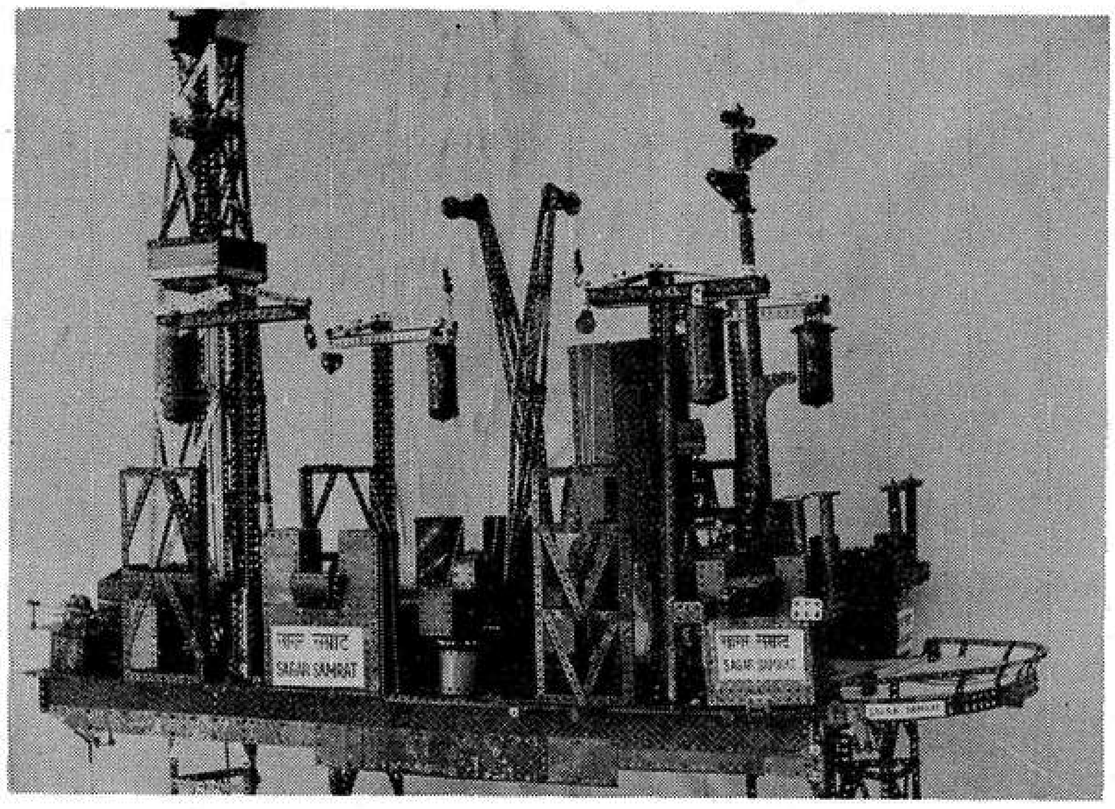
Another amazing model, a "Shed" or Work Shop, built by blind enthusiast Gerald Hutton of Bexhill-on-Sea, Sussex. Designed from Gerald's imagination, the model is extremely well-proportioned and reflects great credit on his modelling ability.

by Mr. F. D. Aria of Dalkeith, Phanchgani, in the Satara District of India. It is based on the Japenese-built ship "Sagar Samrat" and, as can be seen, it is a large and detailed model which reproduces the real thing rather well. Don't let the legs fool you, by the way. The real ship does float, but, when on site, it is jacked up out of the water on its four giant triangular legs.

Built entirely from Meccano, the model stands some 6ft high, is 5½ft long and is 2ft wide. The working drill is driven by an electric motor as also are the ship's propellors, and the model sports no less than six cranes, all working. Mr. Aria tells me that it took him three months to complete, working two hours a day, and, although he has not produced a full breakdown of the components used, he does know that it uses more than 3,000 Nuts and Bolts! Actually, knowing that Meccano is almost impossible to obtain in India because of import restrictions, I was rather surprised to see such a large model from an Indian reader. Studying the photograph, however, I see that many of the parts used date back many years, therefore Mr. Aria presumably obtained much of his collection when things were easier, or perhaps even outside India. The Model is thus living proof of Meccano's long-lasting properties!

UP-AND-COMING.....

Finally, I just have time to mention an up-and-coming young enthusiast,



Right, a detailed model of the oil-drilling ship "Sagar Samrat" built by Mr F.D. Aria of Dalkeith, Phanchgani, India. Below, young Andrew Nickson of Hackett, A.C.T., Australia pictured with a model Tank he built with his plastic Meccano 300 Set.

Andrew Nickson of Hackett, A.C.T., Australia, who was only seven years old when the accompanying photograph was taken (in mid-1974!) Andrew's dad sent me the photograph, together with details of a very realistic Tank Andrew had built from his Plastic Meccano 300 Set, and I thought the photograph so appealing that I have been looking for an opportunity to include it in these pages. I haven't had a chance before now, but better late than never! Andrew will be aged eight or nine by now, but I would still like to congratulate him on the realism of that first Tank. Well done, Andrew!

* * *

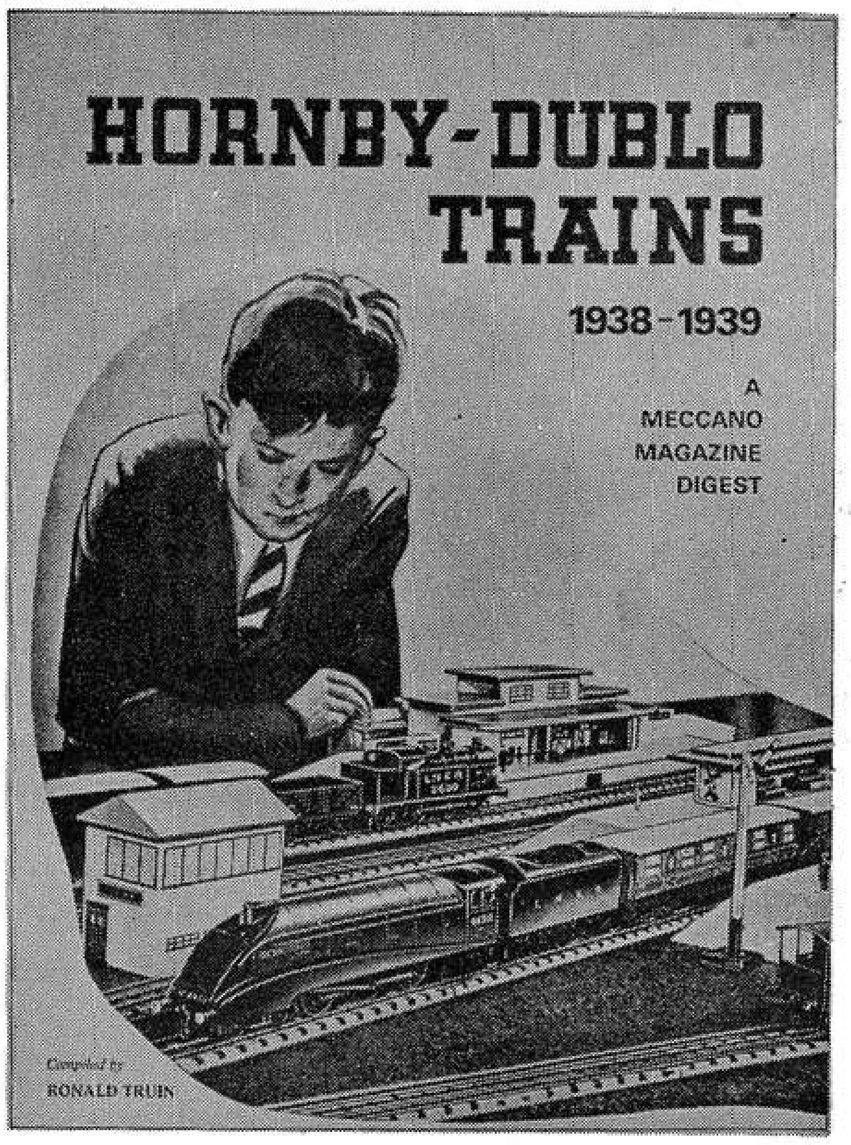
A HAPPY NEW YEAR TO ALL!

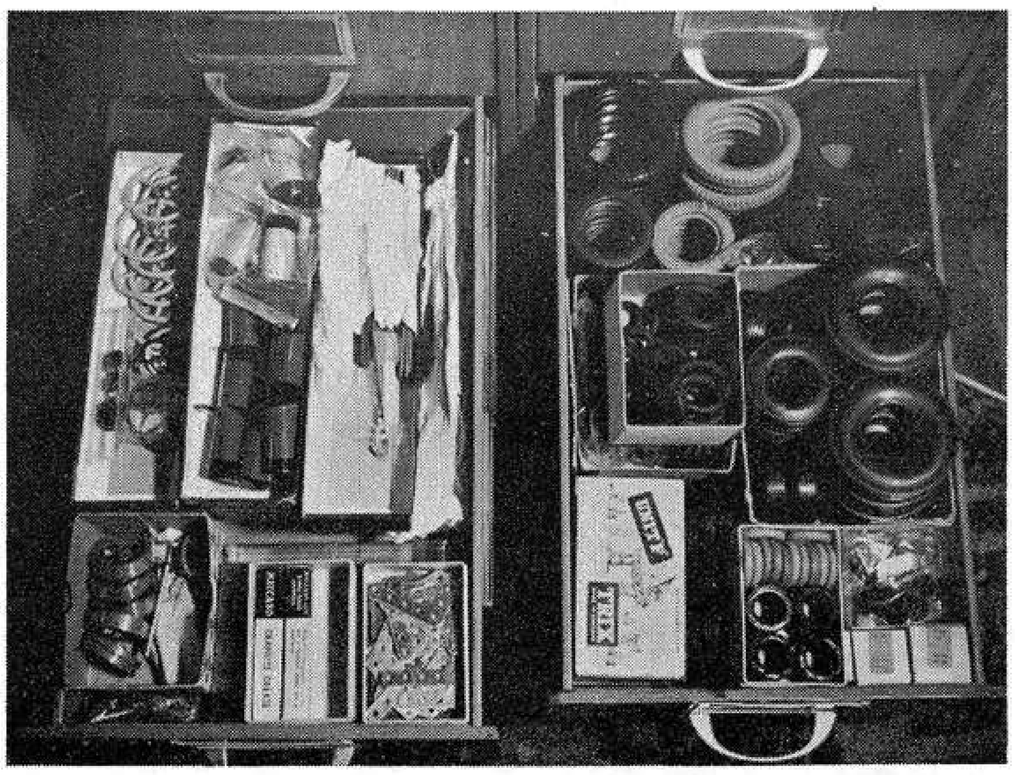
Of Nostalgic Interest. . . .

In the April 1975 MMQ, we reviewed a publication entitled "Collecting Meccano Dinky Toys", compiled from old Meccano Magazines pages by Mr. Ronald Truin and published by the Cranbourn Press Ltd., 7 Cecil Court, London W.C.2. Mr. Truin has now released a further addition to his 'Meccano Magazine Digest' series, entitled "Hornby Dublo Trains 1938 - 1939" and, although the Digest is not directly concerned with Meccano modelling – nor do we now manufacture model railways – we felt that it would be of great nostalgic interest to many Meccano enthusiasts.

Intended to cover the first year of our Hornby Dublo operation, the contents of the Digest are in the form of first-class reproductions of selected editorial pages and advertisements from old Meccano Magazines, arranged in chronological order and running from September 1938 until December 1939. Produced in an upright format, measuring 11" x 8¼" it contains 36 pages, plus cover, and is printed in black-and-white on quality glossy art paper with stiffer cartridge paper covers.

A publication of great interest for those who mourn the passing of Meccano's Hornby Dublo Trains (as opposed to the current "Hornby Railways" system manufactured by Rovex Ltd.), it is available direct from the Cranbourn Press priced at £1.50.





The Author's ex-office filing cabinets will even accommodate non-Meccano Parts!

MECCANO MISCELLANY

* * *

Among other things, MIKE NICHOLLS mentions 'another construction system'!

THOSE WHO have had Meccano since they could walk may not realise the effects that the hobby has on a person. Only those who have taken it up somewhat later in life are able to see the real difference between Meccano people and non-Meccano people.

When I was a lad, I got my kicks from a packet of Trix, a system little more versatile than the Meccano "X"-Series of the 1920s, but bearing a strong resemblance to it due to the fact that Trix inspired the "X"-Series! I started with "ElemenTrix", a set comprising Units "A" and "B", and spent many hours with what was referred to as my "Meccano"(!), building arrows and park benches.

A bit later in life (after the additions of several extra packets), I aspired to an "ElecTrix" which was somewhat akin to the Elektrikit. I was fond of my Trix outfit; in fact I had many heated arguments with a Meccano-owning colleague at school as to the respective virtues of the two systems, but then Trix fell by the wayside – in favour of Bayko!

Those early years were of course formative, and left me with a basic understanding of rather crude mechanics and an interest in electromagnetics, both of which were to lay dormant for many years.

The point of all this is that Trix did not spark off anything – other than arguments in the playground. For the real thought-revolution I had to wait until I discovered Meccano, and then there was what I can only describe as an explosion of awareness. After less than a week with a No.5 Set, I was sticking my nose into everything to see how it worked; every mechanism I came across was not allowed to leave until it had surrendered its innermost secrets. Why did this explosion occur with Meccano and not with Trix?

You may suggest that I was not very receptive or inquisitive when I was younger, but surely, apart from cats, little boys are the most inquisitive creatures on earth, especially where wheels and handles are concerned. No, I think that the lack of versatility, realism and possibilities of the Trix system prevented it from relating to the real world, and that's why it remained just a toy; whereas Meccano immediately relates to the world and becomes a means of expression, fostering an interest in everything.

But to my mind, the most important psychological facet of Meccano is the compulsion engendered in the serious constructor for getting things right.

A Meccano engineer will spend all day building and re-building an assembly to get it right, and of course this is bound to "rub off" on his attitude to other things in life, until the person in question takes a pride in a job well done, and will only leave a job when it *is* well done to the best of his abilities. This attitude, coupled to experience with Meccano, generates confidence to tackle everyday jobs that would otherwise appear to fearful. The Editor and myself both confess to being able to tackle "jobs on the car" etc. with far more confidence thanks to experience with Meccano.

So, what makes Meccano relate so well to life? Frank Hornby always maintained that *his* construction system was the only one based on real engineering principles: in other words, he went to a good deal of trouble to *get it right,* even if it cost a bit more. The result was the system of "real engineering in miniature" that (with a few modifications) has lasted 75 years.

It is now very difficult to imagine the world without Meccano. Apart from the recreational uses, the system has found a firm place in research and development the world over, and has been the unwitting parent of a vast utilitarian progeny in the form of slotted angle, shelf racks, pegboard, etc. The full effects of the first 75 years of Meccano are impossible to tabulate, but the world would be a *much* different place without it, and as we enter the year when we shall be especially thinking of the genius of Frank Hornby, let us remember that he did what he did *without the benefit of an upbringing on Meccano!*

STOW IT!

There comes a time in every enthusiast's life when he finds that his outfit has outgrown its storage system, and a reorganisation must take place. My outfit out-grew successive sizes of toolbox, and eventually became housed in Meccano 10 Set Cabinets. These Cabinets are indeed an elegant – not to say near-ideal – way of storing Meccano parts, but as I said, there comes a time .....

For instance, where in a 10 Set Cabinet do you store twelve Flanged Rings, or a veritable explosion of Double Angle Strips? The answer is, of course, that you can't: the Meccano Cabinet was not designed to do so; so where do we go from here?

There are many solutions, and I must stress that one outlined here is not presented as being suitable for

everyone, but it suits *me* fine, and the information may set others thinking of ways to solve their own problems.

From our local secondhand shop, I purchased, for a few pounds, the pair of four-drawer ex-office filing cabinets seen in the pictures. As you will notice, the drawers are about half as deep as in usual filing cabinets and are just right for storing Hub Discs and Circular Girders on end. This generous depth allows many of the same type of part to be stacked on top of each other, without being too deep, as would be a normal filing cabinet drawer. Cardboard or plastics boxes of suitable sizes may be used to section off the inside of the drawer and, if boxes of similar height are used, a second or even a third layer may be installed in any one drawer.

I have found the filing cabinets ideal for my requirements; in fact I am so satisfied that when it comes (and I shudder at the thought) to extending the storage of the outfit further, I shall look for more units of this type.

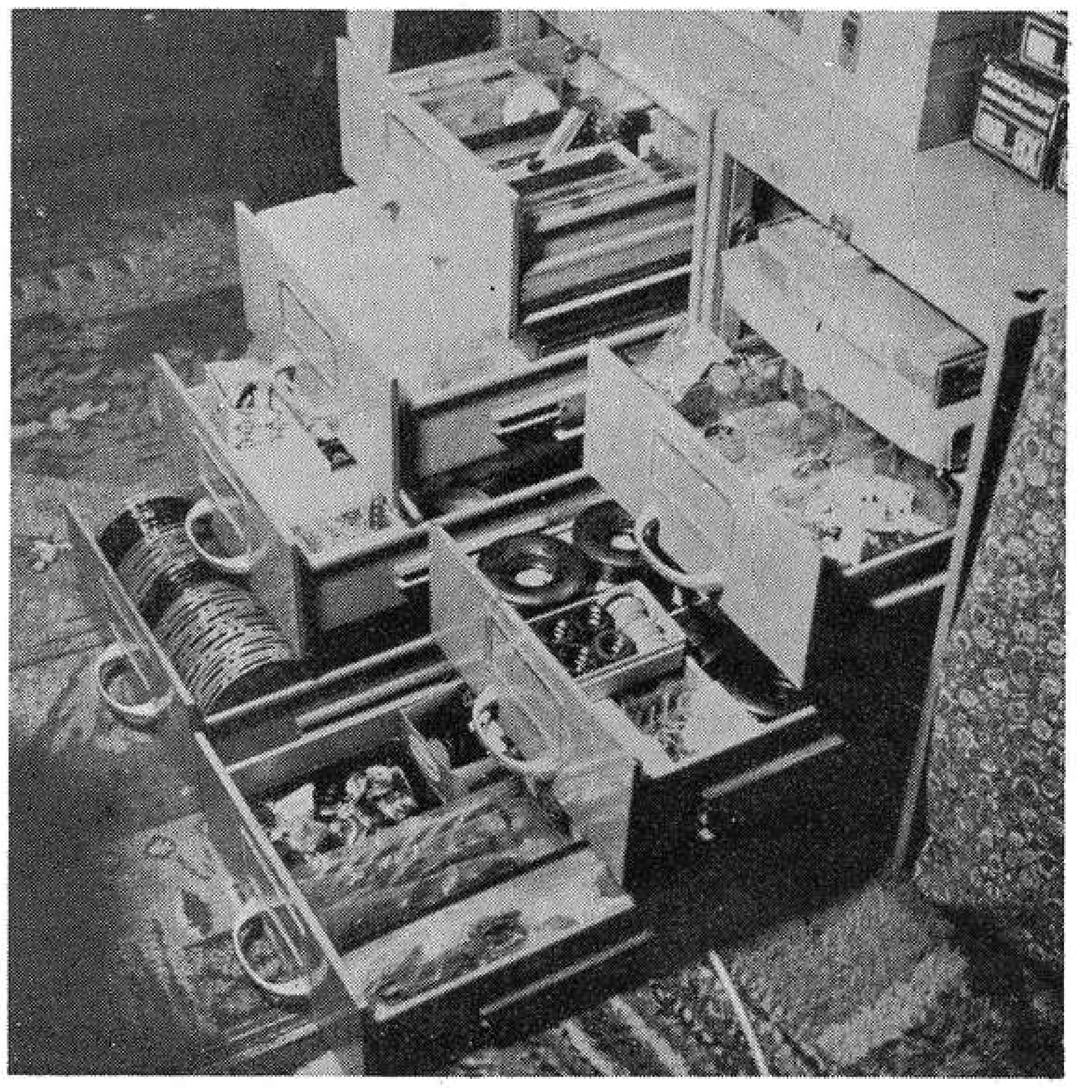
What is more, they are fitted with a security lock which allows one to safeguard one's most treasured possession!

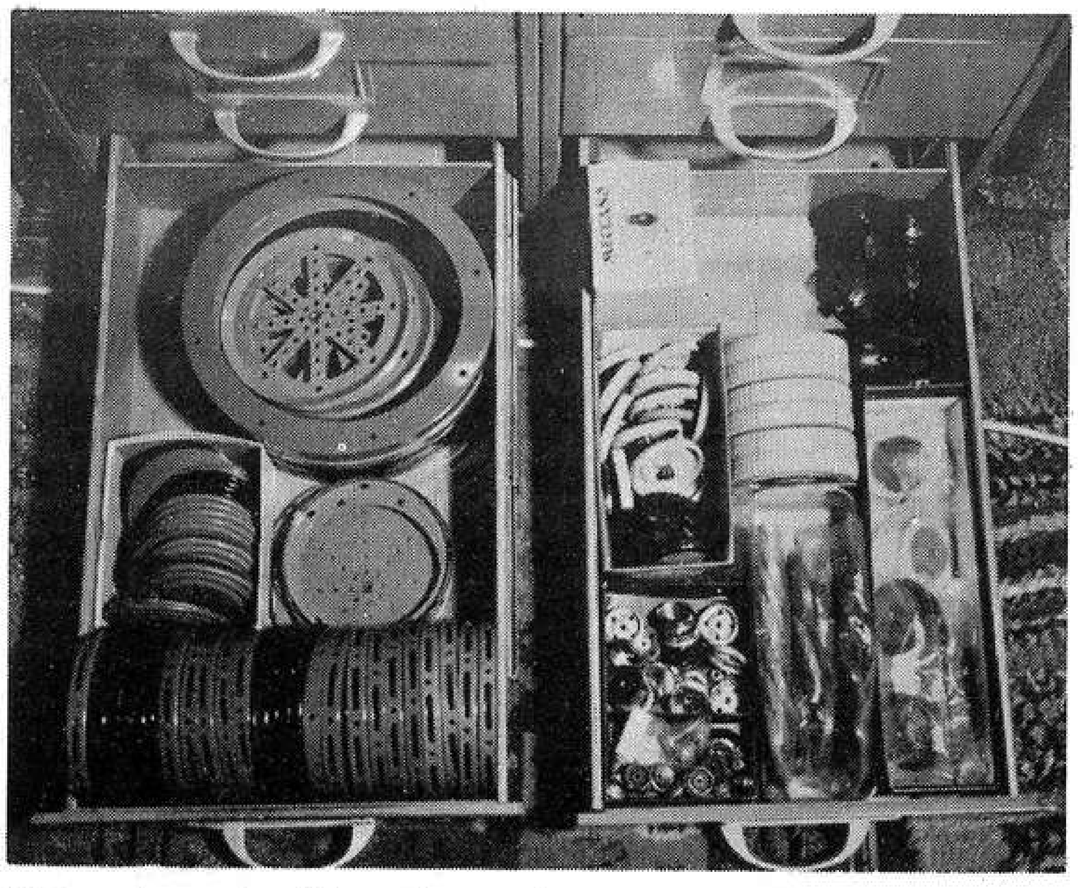
EXHIBITIONMANIA

We are truly in the age of the Meccano exhibition. Hardly an MMQ goes by without a report on a "highly successful and rewarding" or "very popular and well attended" exhibition at which "countless models were on show" or "the public expressed astonishment".

Without wishing in any way to belittle the truly magnificent efforts of the present-day organizers, both in Britain and overseas, I think that I should point out – before the next claim for the "biggest", "best attended" or "longest-running non-company organized" exhibition is published – that in Meccano Magazine for May 1931 there is a report of an exhibition organized by the Newcastle-on-Tyne Meccano Club and Branch of the Hornby Railway Company, that is worth consideration in any "Brown Ale Book of Meccano Exhibition Records".

Mike Nicholls has overcome the undeniable problem of storing a healthy Meccano collection with this pair of ex-office filing cabinets. They accommodate even large and unwieldy parts admirably.





This view, looking down into two of the Author's cabinet drawers, gives a good idea of the space available by showing how easily parts such as large Flanged Rings, 6" Pulleys and Hub Discs are accommodated.

The said exhibition was the second to be held by that club and

> ". . . the officials and members worked very hard in fitting up the hall . . . and when all was ready they filled the benches with an imposing array of Meccano models constructed by themselves or by entrants in the many competitions that had been organized in connection with the exhibition.
>
> "A remarkable gathering was present when . . . (the) Lord Mayor of Newcastle-on-Tyne opened the exhibition. The Lord Mayor payed a wonderful tribute to Meccano and . . . told (those) present that on leaving the hall he was going to an assembly of civil engineers, and expressed his intention of telling them that . . . (they) were only grown-up Meccano boys, and their bridges, dams and other structures were simply full scale Meccano jobs!"

It appears from the MM report that this exhibition was started in a most unusual way. Instead of all the models being in operation before the doors were opened, all was quiet until after the opening ceremony when . . .

> ". . . a signal was given and the motors were switched on, revealing the fact that the most of the models on view actually worked.
>
> "The exhibition remained open for ten days. The many working models were regularly demonstrated by members of the club and, in addition, two Hornby Railway layouts were in active operation practically throughout in accordance with a carefully planned timetable. The efforts of the members were rewarded by a wonderful attendance. In spite of snowy weather, over 15,000 visited the exhibition".

Well, the way things are going, someone will soon be able to claim "longer than ten days", or "more than 15,000 people" (and remember, this was *purely* a *Meccano* exhibition); but one statistic over which those lads from Newcastle-on-Tyne will *never* be beaten is the fact that . . .

> ". . . the most interesting event of the (opening) evening undoubtedly was the address of Mr. Frank Hornby . . . (who) made a special journey north in order to be present, and he delighted everybody in the great audience by his romantic account of the invention of Meccano and its amazing development".

Now follow that!

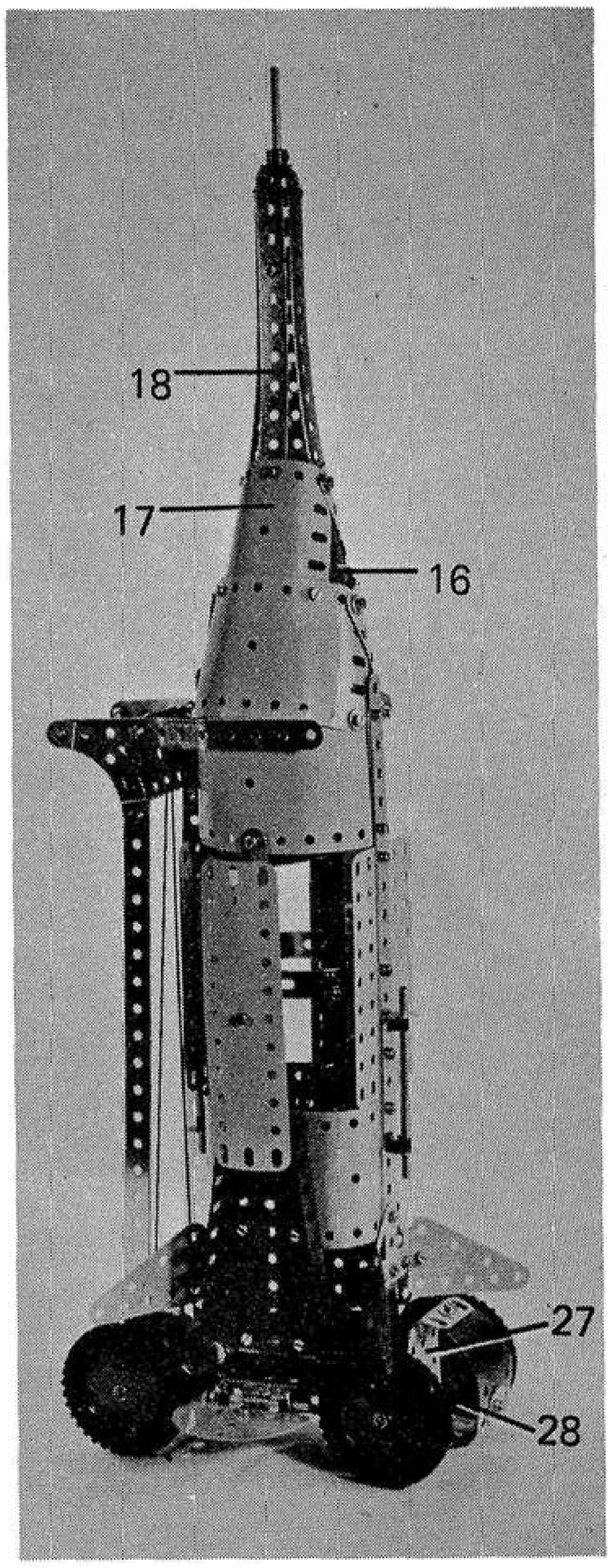
"BLAST OFF!"

says `Spanner´ with this SPACE ROCKET built from a No.5 Meccano Set

WHEN THE Meccano idea was invented 75 years ago moon rockets and space travel were subjects of pure science fiction, flights of fantasy rarely considered by the average down-to-earth person of the period. Today, space flight is an established reality – and Meccano is right there with it! Featured here is a Space Rocket and Mobile Support Gantry which make bang-up-to-the-minute subjects for modern-minded modellers. Both Rocket and Gantry are built from a single No.5 Meccano Set.

Dealing first with the Rocket, the 'motors' are represented by four 1" Pulleys with boss fixed by 3/8" Bolts to a 3" Pulley 1, boss upwards in the rocket base. The Bolts are passed through diametrically opposite outer-row circular holes in the face of the 3" Pulley and into the bosses of the 1" Pulleys where they are locked by the Pulley Grub Screws. Attached to the top face of the 3" Pulley, through two opposite large elongated holes, are two Trunnions, each spaced from the Pulley by a 1" Pulley without boss on the securing ¾" Bolt. The head of the Bolt actually projects beneath Pulley 1, the Trunnion and Pulleys being fixed together in the centre of the Bolt shank by Nuts. Bolted to the vertical flanges of the Trunnions are two Flanged Sector Plates 2 which are themselves extended ten holes upwards by 5½" Strips 3. Bolted to the centres of these Strips is a ring 4 made up of four Formed Slotted Strips, the securing Bolts also helping to fix a 2½" x ½" Double Angle Strip 5 to each Strip 3 in the position shown.

The completed Space Rocket and Mobile Launching Gantry built from a No.5 Meccano Set.

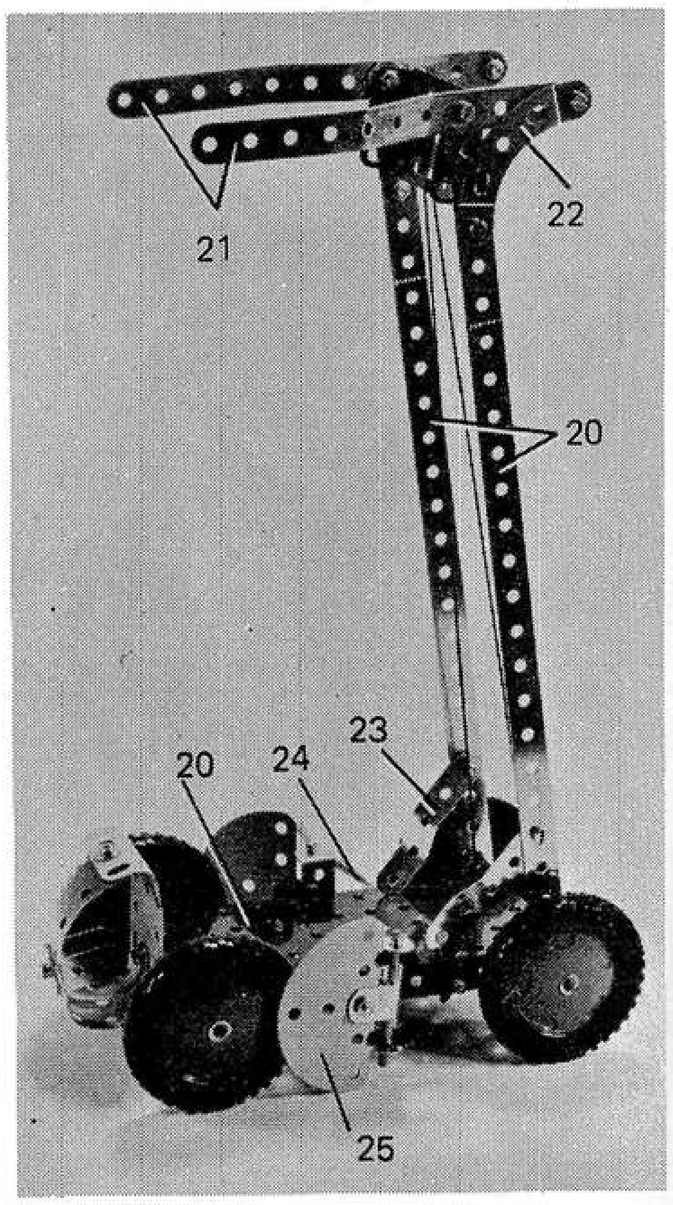


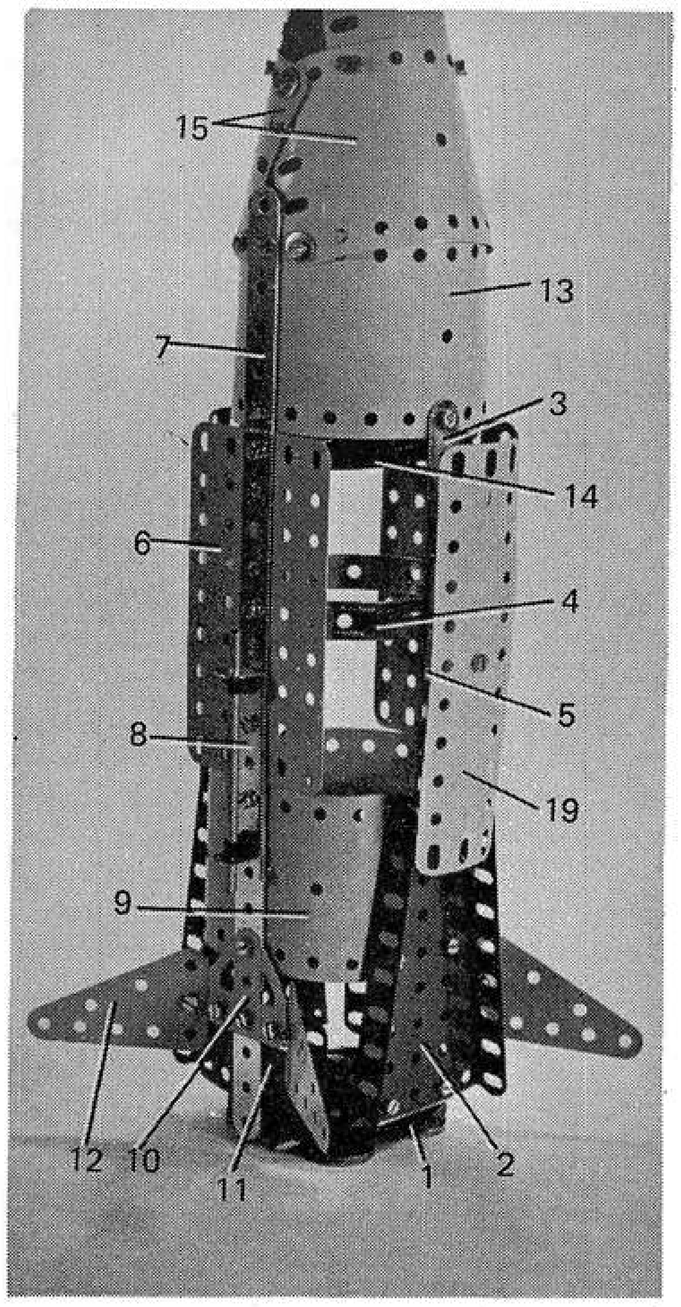
Also secured to ring 4, at 90° to Strip 3, are two 4½" x 2½" Flat Plates 6, each centrally overlaid by a 12½" Strip 7. Bolted to each Strip 7 in the position shown is a 2½" x ½" Double Angle Strip 8, the lower securing Bolt helping to hold a 4½" x 2½" compound flexible plate 9 (built-up from two 2½" x 2½" Flexible Plates) in place. The compound plate is curved to shape and the corners bolted to Flanged Sector Plates 2. Also bolted to each Strip 3 in the position shown is a Flat Trunnion 10 which overlays the upper edge of a 2½" x 1½" Plastic Plate 11, the securing Bolts also fixing two Obtuse Angle Brackets in place. Bolted to the spare lug of each of these Angle Brackets is a 2½" x 1½" Triangular Flexible Plate 12 which serves as one of the Rocket fins.

Now fixed to the upper ends of Strips 3 are two 5½" x 2½" Flexible Plates 13, each securing Bolt also fixing a ½" Plastic Pulley (acting as a thick washer) and an Angle Bracket to the inside of each Plate. Bolted to the spare lugs of the Angle Brackets is a 3" Pulley 14, then the Plates are curved to shape and secured to Strips 7.

The tapered nose of the Rocket is produced from two 4½" x 2½" Flexible Plates 15 bolted to the upper edges of Flexible Plates 13, being fixed by their lower corners through the second holes from the ends of Plates 13 in each case. The upper corners of Plates 15 are simply bolted together, full use of the elongated holes being made to obtain a good taper. The taper is extended upwards by two 2½" x 1½" Plastic Plates 16 and two 2½" x 2½" Flexible Plates 17. (If the Rocket is built from the exact contents of a No.5 Set, Plates 17 are supplied by a 2½" x 2½" Curved Plate and U-section Plate, opened out as necessary.) The nose is then further extended by four 5½" Strips 18, the upper ends of two of which are connected together by a Double Bracket, the remaining two Strips being connected together through their fourth hole from the top by another Double Bracket. Journalled in the Double Brackets is a 3½" Rod held in place by a Spring Clip beneath the lower

A general view of the Mobile Gantry with the blast shields turned to allow movement of the Crank Handle.





A close-up view of the Rocket which, despite its size, is not difficult to build.

Double Bracket and by a ½" Pulley with boss above the upper Double Bracket.

Returning finally to the main body of the Rocket, two 5½" x 1½" Flexible Plates 19, curved to shape, are each bolted to a 2½" x ½" Double Angle Strip which is then attached by it's lugs to the lugs of one or other Double Angle Strip bolted to Strips 3. The last touch is provided by a 3½" Rod held by Spring Clips in the lugs of Double Angle Strip 5.

GANTRY

The Rocket completed, we now come to the Mobile Support Gantry which is simply built-up from a 5½" x 2½" Flanged Plate 19, in the end holes of the flanges of which 4" Rods are held by Road Wheels. Pivoting on the rear Rod are two 12½" Strips 20, the upper ends of which are connected together by a 2½" x 1½" Flanged Plate, the upper securing Bolts also fixing two horizontal 5½" Strips 21 in place. These latter Strips are curved to accommodate the Rocket and are braced as shown by 2½" Stepped Curved Strips 22. Two 2½" Strips 23, cranked inwards, are bolted through the fifth holes from the lower ends of Strips 21 to provide "stops" to limit forward movement of the Gantry.

A length of Cord is tied to the base plate, is brought up and threaded through the bottom row centre hole in the small Flanged Plate at the top of the Gantry, then is taken down and threaded through the centre hole in the end flange of Plate 19 and is then wound round and secured to a 3½" Crank Handle 24 held by a Spring Clip in the fourth holes in the side flanges of Plate 19. Note that this Crank Handle and Cord do not wind up, or control, the position of the Gantry, but simply serve as a tensioning device to hold the Gantry in position.

Two blast shields are each provided by a Semi-circular Plate 25 bolted to a right-angled Rod and Strip Connector fixed on a 2" Rod. This Rod is held by Spring Clips in the lugs of a 1½" x ½" Double Angle Strip 26, stiffly lock-nutted to the centre of the side flange of Plate 19. These assemblies are lock-nutted in place so that they may be pivoted out of the way to allow the Crank Handle to be turned when required.

Finally, a rather neat low-slung cab is provided by two overlapping 2½" x 1½" Flexible Plates 27, curved to shape and bolted to the front and end flange of Plate 19. The windscreen is a 2½" x 1½" Transparent Plastic Plate, the lower securing Bolt also fixing a 1" x ½" Double Bracket 28 inside the cab and ¾" Washer outside the cab, the latter representing a big, central headlamp.

PARTS REQUIRED

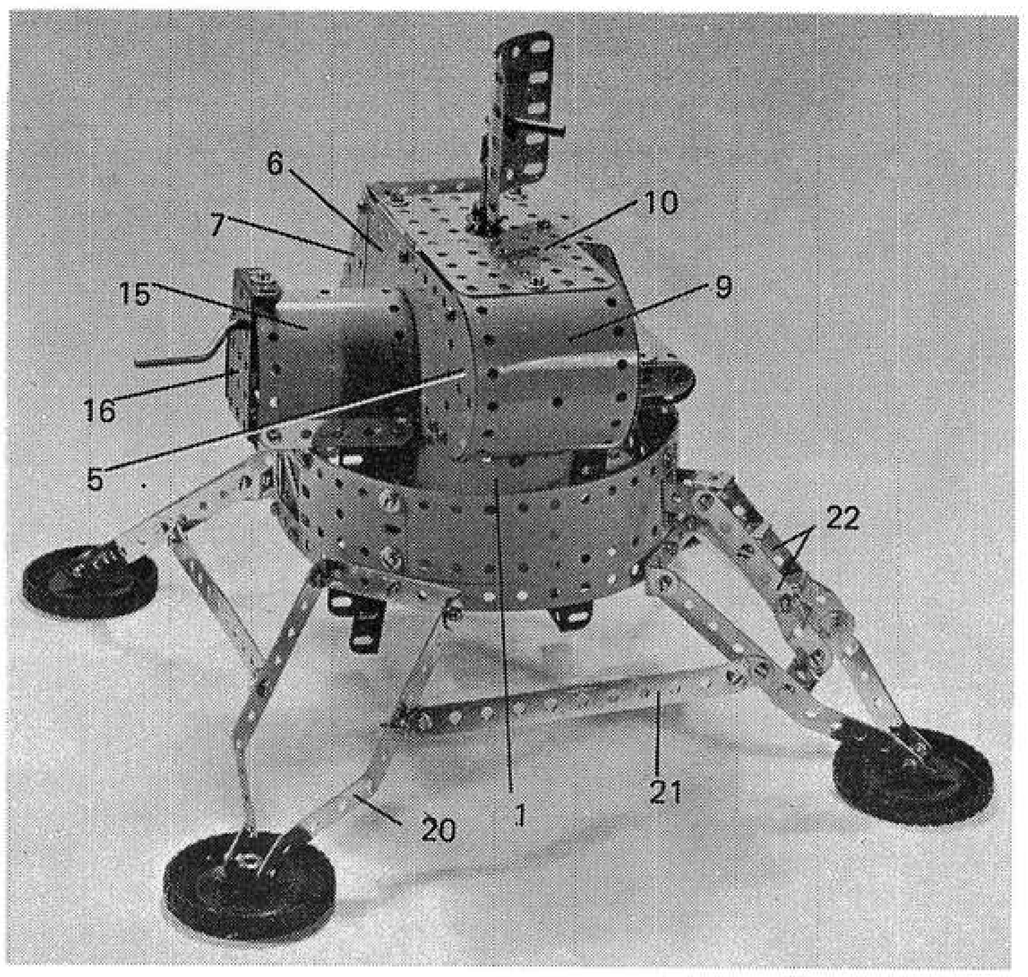
4- 1	4-22	1- 51	2-191
8- 2	2-22a	1- 52	2-192
2- 5	2-23	2- 53a	1-193
2-11	1-23a	2- 54	2-194
1-11a	10-35	2-90a	2-194a
2-12	81-37b	2-111	1-199
4-12c	89-37c	6-111c	1-200
2-15b	10-38	2-126	2-212a
3-16	1-38d	2-126c	2-214
2-17	1-40	4-187	4-215
2-19b	2-48	2-189	4-221
1-19s	6-48a	4-190	

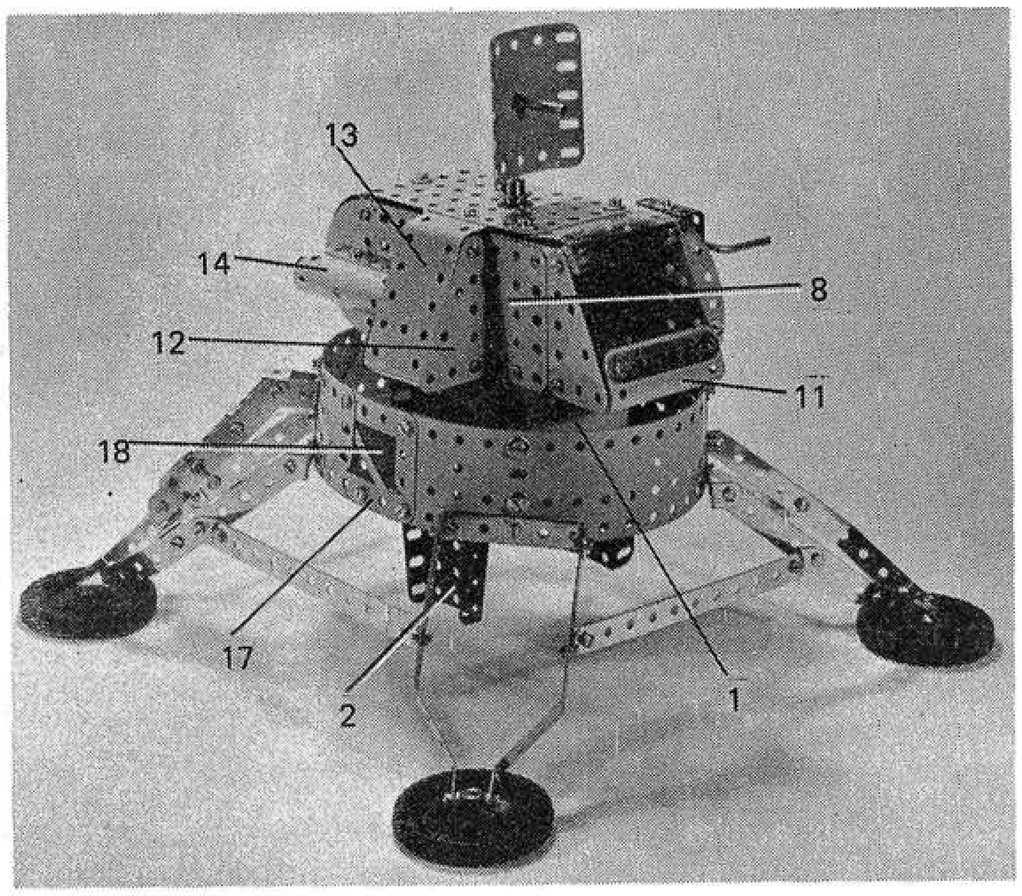
* * *

and "HAPPY LANDINGS"

A 'LUNAR BUG' built from a No.6 Set

CONTINUING OUR space-age Meccano theme, you could say that, if the Rocket is fine for blasting intrepid space travellers on their journeys to far distant planets, a smaller landing craft is needed for getting them down on to the surface of the planets. We are all familiar with the Lunar Land-





A general view of our 'Lunar Bug' which is built from a No.6 Meccano Set. Although a fictitious model, in the sense that it was designed and built in the Model Department at Binns Rd., it was inspired by the Lunar Landing Module used by the Americans in their highly successful Apollo Programme. Like the Space Rocket on the previous pages, it is not a particularly difficult model to construct.

←

ing Module which the Americans used with great success in their Apollo Programme and, although not a copy of it, this has served as inspiration for our own fictitious Lunar Bug, built from a No.6 Set and featured here in all its glory!

As regards construction, two 5½" x 2½" Flexible Plates 1 are curved to shape and bolted to two Flanged Sector Plates 2, a distance of one hole separating the ends of the Flexible Plates in each case and the lower securing Bolts also fixing a Trunnion 3 to the outside of each Sector Plate. The assembly is then attached by two Angle Brackets (bolted one to the top row centre hole of each Plate 1) to the underside of a 5½" x 2½" Flanged Plate 4, to one side flange of which are bolted a Semi-circular Plate 5, a 5½" x 2½" Flexible Plate 6 and a 2½" x 1½" Triangular Flexible Plate 7. Bolted to the other flange of Plate 1 are a Semi-circular Plate, a 4½" x 2½" Flat Plate 8 and a 2½" x 1½" Triangular Flexible Plate, all edged along the top by a 5½" Strip inside the Plates.

The Plates at each side are connected by three 2½" x ½" Double Angle Strips, one bolted between the top row centre holes of Plates 8 and 6, the second between the upper holes of the Semi-circular Plates and the third between the apex holes of the Triangular Flexible Plates. Bolted to these Double Angle Strips and to the ends of Flanged Plate 1 are, in order from back to front, a 4½" x 2½" Flexible Plate 9, curved to shape, a 4½" x 2½" Flat Plate 10, a 4½" x 2½" Transparent Plastic Plate and a U-section Curved Plate 11. The connection between U-section Plate 11 and the Transparent Plate is overlaid by a 2½" Strip.

Now centrally fixed to the top and bottom edges of Flat Plate 8 are two 1½" x ½" Double Angle Strips, to the lugs of which two 2½" x 1½" Triangular Flexible Plates 12 are bolted. A 5½" x 1½" Flexible Plate 13 is then fixed to the upper edge of nearby Sector Plate 2, after which it is formed round to follow the outer contours of the Triangular Flexible Plates, its upper end being bolted to the underside of Flat Plate 10. Attached by an Angle Bracket to Flat Plate 8, immediately aft of this assembly, is a 2½" x 2½" Flexible Plate 14, curved to a "U" shape and overlaid along its upper edge by a 2½" Strip. The rear end of the tube thus formed is enclosed by a 1" x 1" Angle Bracket.

At the other side of the model, a 5½" x 2½" Flexible Plate 15, edged by 2½" Strips, is bolted to the upper ends of the flanges of Sector Plate 2, the outer corners of the Plate being connected by a 2½" x ½" Double Angle Strip. Bolted to the centre of this Double Angle Strip is a 2½" x 1½" Flanged Plate 16, the upper flange of which is attached to the top of Plate 15 by a 3/8" Bolt carrying a ½" Plastic Pulley as a spacer. Journalled in the second row centre hole of Flanged Plate 16 and in the hole in the centre of Flexible Plate 6 is a 3½" Crank Handle, on the inner end of which a Multi-purpose Gear is fixed. This Gear engages with another Multi-purpose Gear on a 5" Rod journalled in Flanged Plate 4 and Flat Plate 10 and held in place by a ½" Pulley above the Flat Plate and by an 8-hole Bush Wheel beneath the Flanged Plate. Mounted on the upper end of the Rod is a Rod and Strip Connector, to which a 2½" x 2½" Curved Plate is fixed by a Threaded Pin. A Rod Connector is carried on the Threaded Pin, the whole assembly representing a radar scanner or radio antenna.

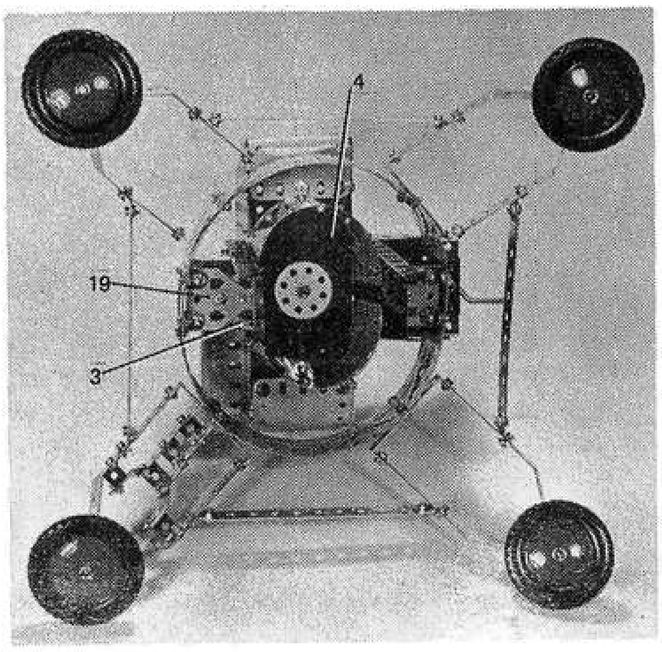
A cylindrical band 17, forty-two holes in circumference, is next built up from two 12½" Braced Girders, overlapped four holes at each end, the entire band being overlaid by two 2½" x 1½" Plastic Plates 18, four 2½" x 1½" Flexible Plates and two 5½" x 1½" Flexible Plates, all arranged as shown, with the Plastic Plates being positioned diametrically opposite each other. Attached by Angle Brackets inside the lower edge of the band, beneath these Plastic Plates, are two Flat Trunnions 19 which are bolted firmly to Trunnions 3 to fix the whole band to the main body of the model.

Four similar legs are each built up from a 2½" x ½" Double Angle Strip, to the lugs of which two 5½" Strips 20 are bolted. These Strips are cranked inwards, as shown, and their lower ends are lock-nutted to the boss of a Road Wheel providing the foot pad. The legs are fixed to band 17 by bolting the Double Angle Strip direct to the band, then the four legs are inter-connected by 5½" Strips 21, attached to Strips 20 by Obtuse Angle Brackets.

Attached by Reversed Angle Brackets to one, only, of the legs is an access ladder which is built up from two 3½" Strips 22, bent to shape and connected together by three Double Brackets. The Bolts fixing the top Double Bracket in position also secure a horizontally-positioned 1" x ½" Double Bracket in place, this Double Bracket being bolted to one of the Plates in band 17. With this done, you should have one, completed Lunar Bug!

The Parts List for this model will be found on Page 13.

An underside view of the Lunar Bug, looking up into the body.



WHAT'S IN STORE

By Mike Peddie

WELL, ANOTHER New Year is here, with who knows what in store!

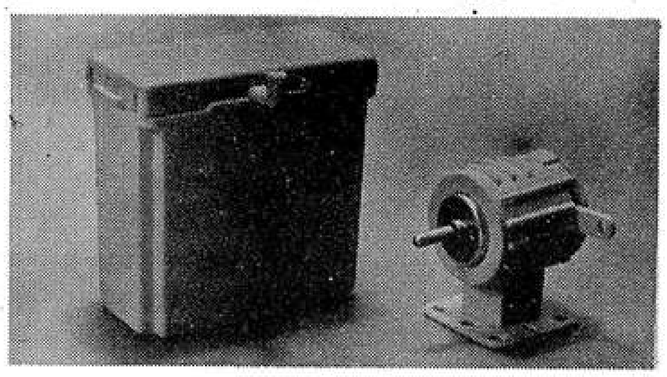
In these troubled times of economic instability and inflation, any toy manufacturer's viability is somewhat dependent on healthy, better-than-the-previous-year sales figures, and one of the best ways of ensuring increased sales is to introduce new products or expand existing lines.

Whenever possible, most British manufacturers – ourselves included – like to officially unveil new products at the British International Toy Fair which, this year, will be held in Brighton from 31st January to 4th February. Until then, it is imperative that new products are kept under a shroud of secrecy to avoid the danger of them being copied by other manufacturers and, of course, to avoid a situation where that all-important person, the toy trade buyer, already knows all about them and so does not come to see them at the Show.

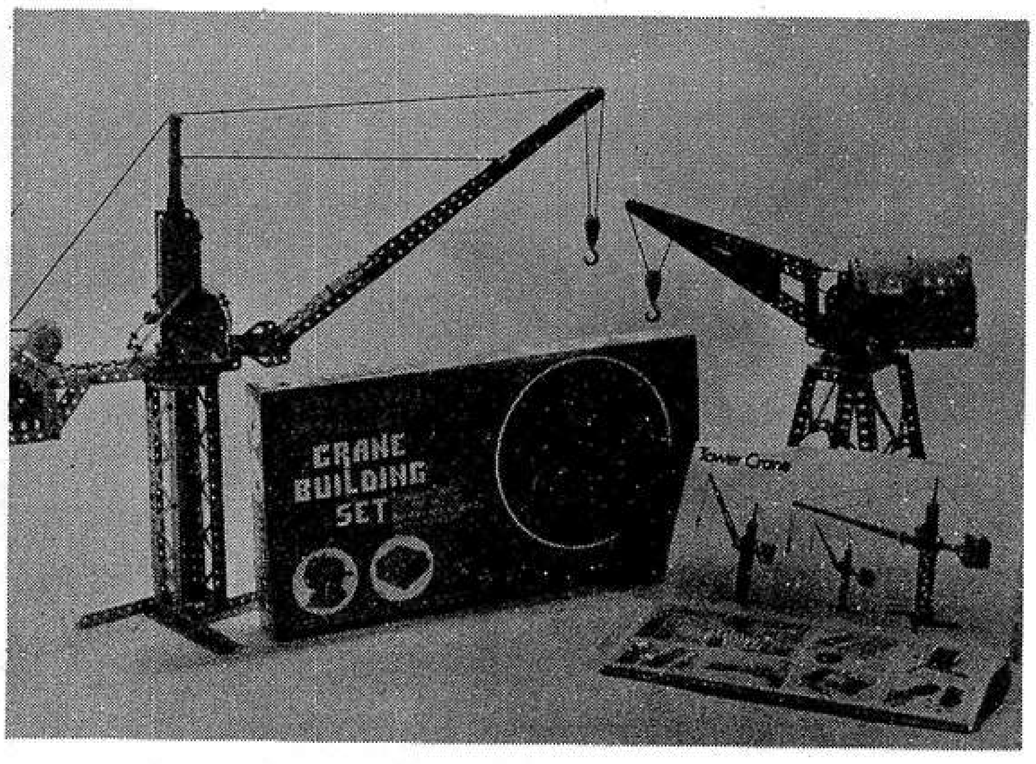
This year, Meccano Limited will be launching a new outfit at Brighton and under normal circumstances, because this issue of the MMQ is *scheduled* to appear before the Show (fingers crossed that it will actually do so!), we would not normally be allowed to make any mention of it here. However, because of readers' continuing loyal support for the magazine – and, indeed, because MMQ readers are the most valued of all the company's customers – we have again been given special permission to release details of the new set in advance of its official Brighton launch. What is it? – the Meccano Multikit Crane-building Set.

UNIQUE FEATURE

By now, all readers will be aware that the Multikit Sets are theme-orientated in that each outfit is designed for building models associated with the title theme, and we are not giving any prizes for guessing that the new kit is intended for building crane models! It is actually the fifth outfit in the Multikit series, but is it also unique by being the first Multikit to be motorised. The set is supplied complete with a brand new, powerful 1½-4½ volt D.C. Electric Motor, plus a new Battery Box and a selection of suitable gears. Both the Motor and the Battery Box are fitted with a forward/stop/reversing switch which allows the motor to be remotely controlled. The Battery Box takes two HP2 or equivalent batteries.



The brand new Battery Box and 1½-4½ volt electric Motor supplied with the Crane building Set.



Also supplied is a photographic book of Models which features colourful step-by-step plans for building eight suggested models – one at a time, of course! The models featured are a Dockside Crane, a Hammerhead Crane, a High-powered Hoist, a Stiff-leg Derrick, a Foundry Crane, a Radial Crane, a Level-luffing Crane and a Tower Crane. Construction of the models is not particularly difficult and, when built-up, they all perform the main operations of equivalent real-life cranes. And, with the components being finished in tough yellow enamel, they look remarkably life-like. To accentuate realism even further, the Set includes a sheet of re-usable vinyl labels which are produced along similar lines to those packed with the existing Multikit outfits.

The selection of components in the kit, chosen for crane construction, also lend themselves well to bridge building, therefore, although not illustrated in step-by-step form, enlarged illustrations of a motorised Lift Bridge and a static Suspension Bridge are also featured in the Model Book. Both bridge models are particularly suitable for use in scenic layouts, model railways immediately springing to mind.

Particularly interesting, the Crane Multikit includes two new-to-Meccano parts, a die-cast metal hook and a die-cast metal Winding Drum. Both are actually already in existence as components fitted to the Mogul Mobile Crane, but they also make ideal Meccano parts – just the thing for a crane-building set!

Needless to say, the new Set is compatible with the four existing Multikit outfits and, of course, the complete range of standard Meccano Sets. Although not specifically designed for the purpose, the Crane Set would, in particular, make an ideal add-on set for either the Highway or Super Highway Multikit, especially as the motor could be temporarily "transferred" with a view to motorising suitable models from these sets.

From a sales point of view, the Multikit idea is the best thing that has happened to Meccano in years. Since the first Multikit sets were introduced in 1973, sales have rocketed – and this buoyancy applies not only to the Multikit Outfits, but also to standard Meccano. In fact, the Multikit Sets have revitalised the whole Meccano system to the point where demand has outstripped supply! Thus, as the new Multikit is specifically designed for building what have always been amongst the most popular subjects for Meccano modelling – cranes – we on the MMQ believe that it will be yet another winner.

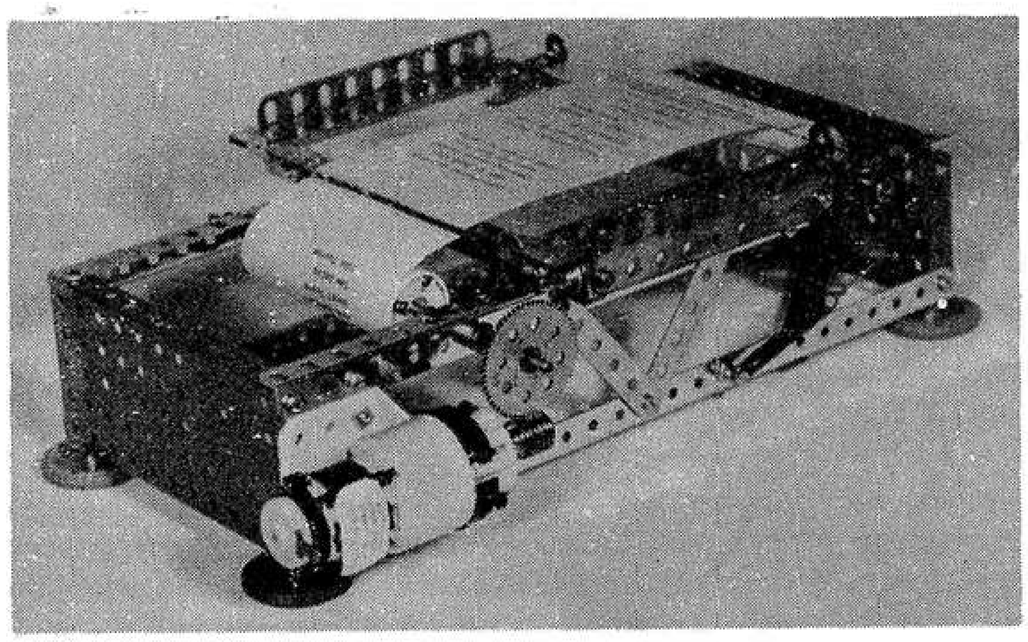
"LET YOUR MODELS LIVE FOR EVER"

says Geoff Pratt

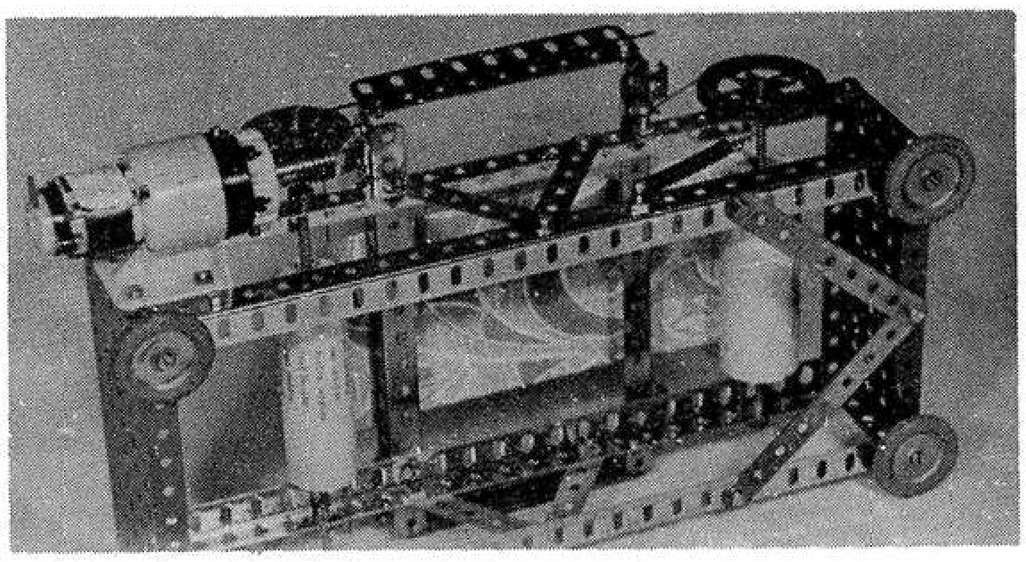
This is the first of what we hope will be a series of articles covering the interesting subject of filming Meccano models. Geoff Pratt, the Author, is an accomplished amateur cine film-maker and Meccano enthusiast who has some very useful hints to offer.

Not literally, of course! But they can be made to live on well beyond their 'normal' life, which we all know can be pretty brief once the models have been satisfactorily built – the parts are needed for the next masterpiece!

I suppose most Meccano enthusiasts photograph their models to provide a memento of some large model which has probably occupied a great deal of their spare time and hard-earned money, and which has only been created after long hours of design work and painstaking trial and error. How many modellers, though, have thought about filming their model? Most models are working models and that means *movement.* A movie film is the ideal way of capturing such models and recording their mechanisms and movements for your future reminiscences and to show other enthusiasts. Of course, it can never take the place of the genuine model for demonstration purposes, but it can provide a useful additional medium. For the modeller's personal record it has no equal. It frees costly and often unobtainable Meccano parts for use in other models. It is also cheaper than photographs, *but above all the film lives* whereas a still photograph is dead.



Above and below, two views of a Film Titler built by the Author to give that extra bit of professionalism when the 'credits' glide smoothly across the screen.



Filming your models is not expensive, and it's not difficult. Once you have tried it, I am sure you will be pleased with the result. Who knows, the additional bug of amateur film-making may then bite – but that's another story. Amateur filming is my prime hobby and so I naturally harness it to my Meccano activities. I hope I can help you in this series of articles and give you a few pointers on how to get started.

CINE EQUIPMENT

Equipment should present no problems. Many families these days own a cine camera and a projector and this is the main thing as far as expense is concerned. If you don't already own any equipment, many photographic dealers have second-hand equipment for sale at ridiculously low prices. Around £8 for a camera and £12 to £15 for a projector are fairly typical prices, although, for these prices, the equipment will be for Standard 8 film and most dealers will tell you this is obsolete. Ignore this comment. If you are buying a camera and projector especially for filming models, then this factor is unimportant. Film for Standard 8 cameras will continue to be made for many more years and that's all you need to worry about. However, if you do have money to spare, buy a good Super 8 camera and projector.

LIGHTING

You next need some form of lighting, unless you want to film your model out of doors. (Filming out of doors is often possible, but there are sometimes unwanted distractions – such as rain for example!) Indoor lighting can be improved with a couple of No.1 Photofloods in makeshift reflectors for a matter of a pound or so. These lamps get extremely hot, so make sure that the reflector is metallic and, very important, that it is *earthed electrically.* Better still, for a matter of around £12 or so you can buy a barlight which fits onto the cine camera. Photofloods or barlights are readily obtainable from a photographic dealer. Camera settings for exposure are either dealt with automatically by your camera (provided that it has a built-in exposure meter), or are easily worked out by means of the information provided with the film and the lights.

The only other problem you are likely to encounter is that of dealing with filming at close range. If your camera has a means of focussing, this will take care of ranges down to about 4 feet. For cameras without

Capturing for posterity – the Author filming a model negotiating a difficult obstacle as it moves into action. Readers may recognise the model as the Self-propelled Gun described in the July '74 MMQ.

focussing facilities, and for those that don't focus near enough, then one or two supplementary lenses may be required. These may cost from 75p upwards, depending upon the camera in use.

TECHNIQUE

The technique for filming your model is quite straightforward. It is best if the camera is clamped to some rigid support to give a nice steady picture when eventually it is projected. A tripod stand is ideal and also excellent examples of camera stands can be simply made – in Meccano of course!

It is usually best to begin with an overall view of the model. This is obtained by placing the camera well away from the subject so that the entire model is seen. This shot should be approximately 12 - 20 seconds in duration to give the audience time to take in some of the details. Then the camera can be moved to show the model from different viewpoints. Now, move in closer to show the details more clearly. Set the mechanism in motion. Keep changing the angle of view. In fact, one golden rule of filming is to *change the camera position for each shot.* You can return to a previous camera position in subsequent shots if required. This golden rule avoids a disturbing phenomenon which is known in filming circles as the "jump cut", when moving objects take a sudden inexplicable leap forward in the middle of an otherwise smooth action.

DURATION

The overall duration of the film should be sufficient to allow you to comment on important details and give interesting facts and figures about it while it is being shown to your audience. Your comments need to be brief and to the point, otherwise you will use up a lot of film. If you wax eloquent on the subject of your model (and who doesn't?) you need to curb your enthusiasm and keep your comments brief, or you will find that it is cheaper to stick to slides (transparencies)!

If the filming bug really bites you can put your comments onto a proper soundtrack on the film and also add appropriate sound effects for your models, but this is deep water for the novice to filming. A well-made silent film is perfectly adequate with a commentary by the projectionist. I have made several short films featuring my models and treasure them? Why don't you give it a try? Incidentally, I have found Meccano to be a great help in my hobby of film-making for the construction of such things as camera stands, trick titlers, a psychedelic film machine, a lapse timer and so forth. I wonder if other Meccano afficianados have any further examples to offer of the use of Meccano in connection with filming, or photography in general?

MOTOR CHASSIS PARTS REQUIRED

See Pages 20-22

11- 2	2-14	2-25	9- -48A	2-109
9- 2A	2-15	4-26	2 -48B	5-111
4- 3	1-15A	2-27	4 -48C	8-111A
6- 4	5-16	1-27A	1 -53	9-111C
6- 5	2-16A	1-28	1 -55A	1-115
9- 6A	1-16B	4-30	3"-58	2-120B
4- 8	5-17	2-30A	42 -59	4-124
2- 8A	5-18A	2-30C	5 -62	2-125
2- 9	3-18B	4-31	9 -63	2-126
12-10	4-19B	178-37	1 -70	1-136
8-11	1-20	38 -37A	5 -89	4-137
24-12	1-20A	40 -38	14 -90	2-140
4-12A	3-22	1 -45	2 -90A	4-142B
4-12B	2-23	1 -46	4 -101	2-147B
1-13A	1-23A	2 -47	1 -102	1-155
				1-157
				2-165

2 6BA Screws, 2 6BA Nuts, 2 Insulating Bushes, 2 Insulating Washers, 1 E15R Electric Motor.

LUNAR BUG PARTS REQUIRED

See Page 10

13- 2	1-23a	2- 53a	1-190
2- 3	1-24	2- 54	1-191
4- 5	1-26	2- 99	4-192
3-11	2-27f	1-111c	1-193c
1-11a	107-37b	1-115	2-194
7-12	108-37c	2-125	1-199
1-12a	16-38	2-126	1-200
8-12c	2-48	2-126a	1-212
1-15	8-48a	4-187	1-213
1-19s	1-51	4-188	2-214
1-23	1-52	2-189	2-221

PROPOSED NEW MECCANO CLUB

Interesting news for Meccano modellers in the Portsmouth area of the Country – Mr. Tony Rednall, of Denmead, Hants., would like to get together with other enthusiasts in the area with a view to forming a new Meccano Club. He would be pleased to hear from anybody interested and can be contacted at 4 Mount Pleasant, Mead End Road, in Denmead.

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The Editor and Staff of the Meccano Magazine Quarterly wish all our readers, contributors and advertisers a happy, prosperous and peaceful year throughout 1976.

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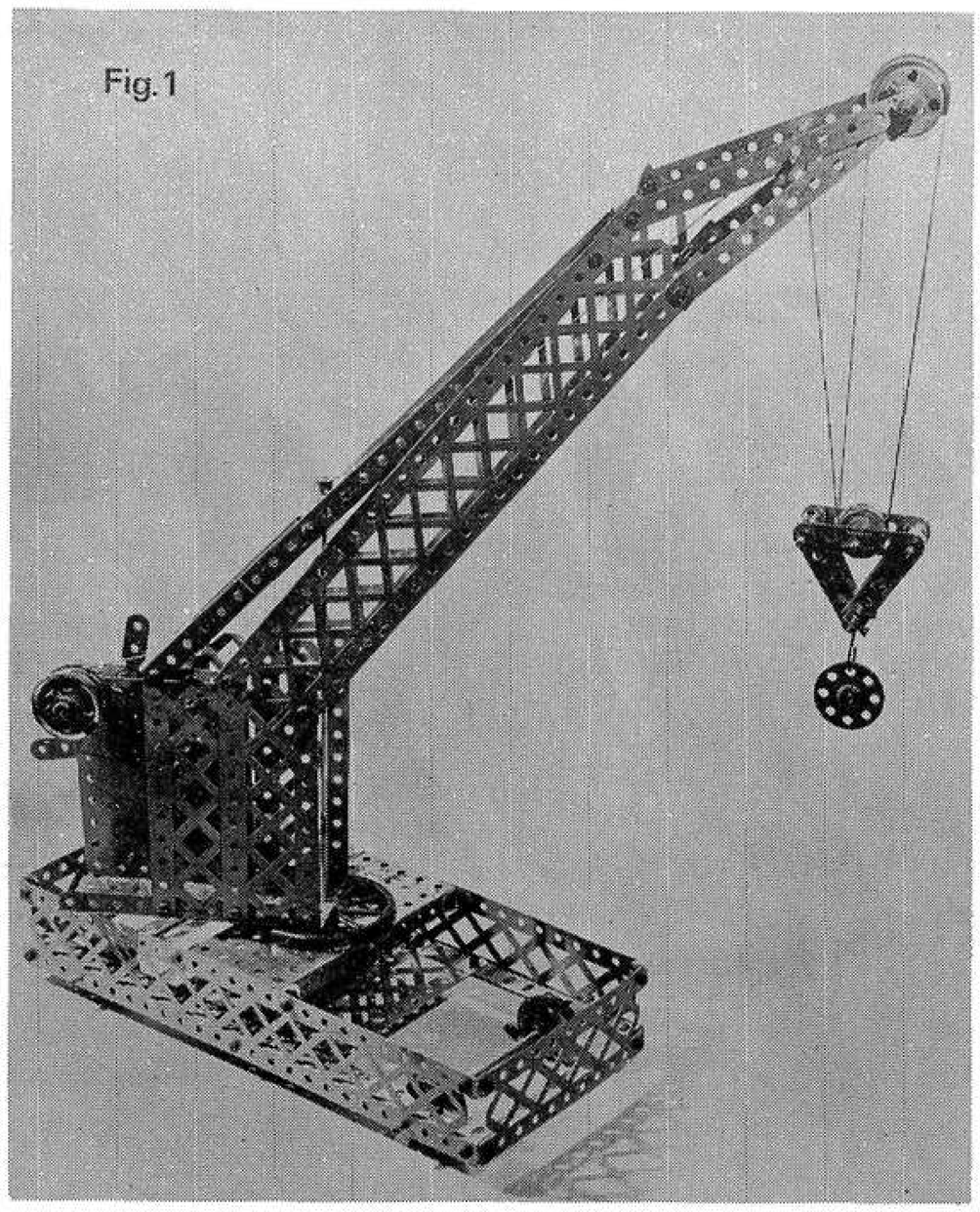
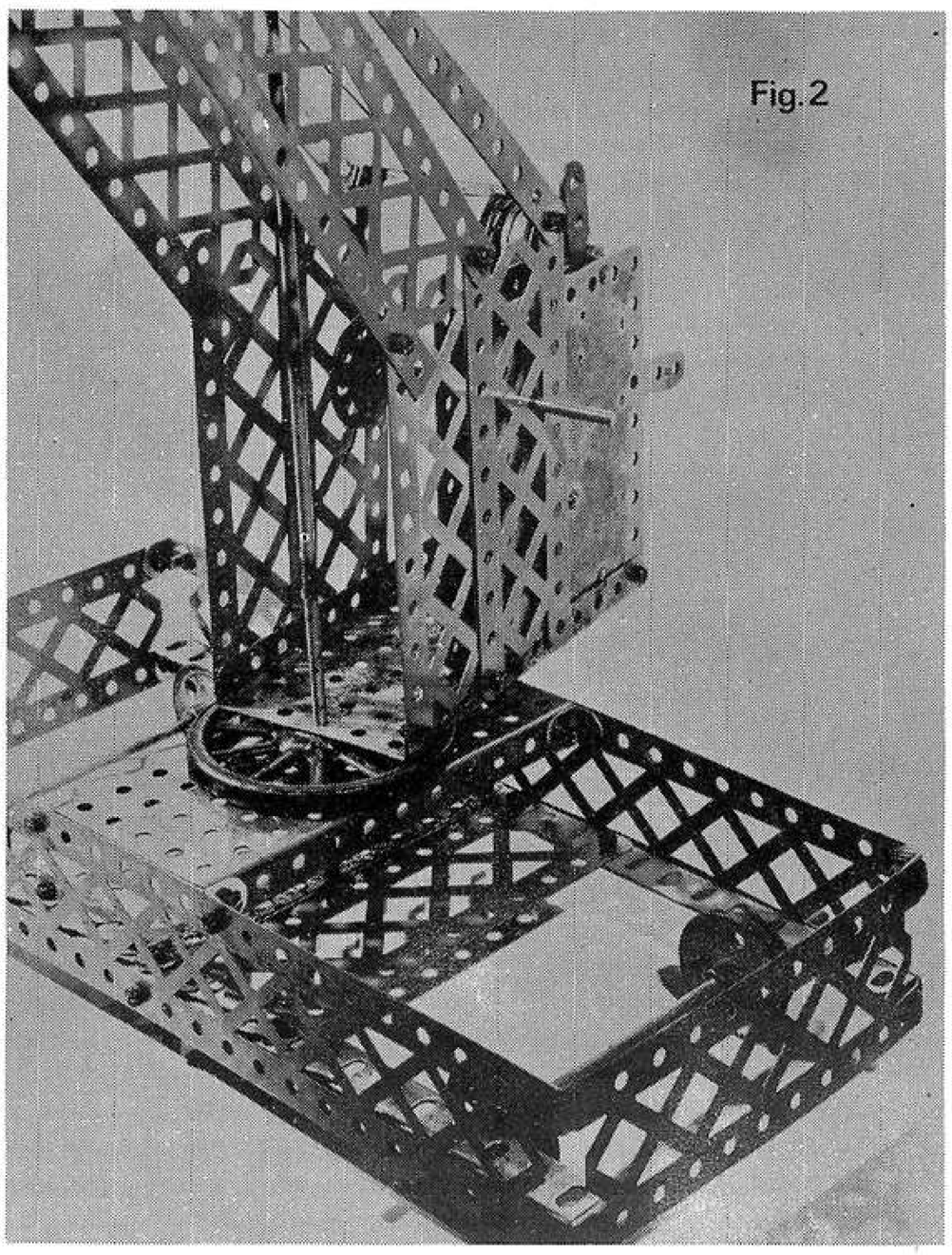


Fig.1 above, a general view of Model No.240 of the 1916 Meccano Book of Instructions – a very popular model which was also featured extensively in advertising material of the period. Fig.2, below, shows main pivot details. Note use of Braced Girders which were NOT included in the outfit claimed for the model!



COLLECTORS' CORNER

by B. N. Love

PICK OF THE (1916) POPS!

THIS YEAR will see the 75th anniversary of Frank Hornby's original constructional toy system and the promotion of "MECCANO 75' will be featured at the various Meccano and other toy exhibitions at home and abroad. First of the important centres is the Brighton Toy Fair which will take place at the end of January. To mark Meccano's progress, a selection of old models through its history will be on show there, one of them being the Railway Crane featured in this article and built by "Yours Truly" from original nickel parts.

This model was the absolute "cat's whiskers" in 1916, when it held pride of place in the Book of Instructions for Outfit No.4. Despite its simplicity and weaknesses, some of which will be discussed here, this model must have given hours of fun to the boys of the First World War. It was so highly thought of that it became the principal model to illustrate on the front cover of a number of subsequent Meccano Instruction Books. Due to a photographic inversion error of the day, the model was printed in reverse on the manual cover, but shown in its correct aspect (as seen here in Fig.3) inside the manual on page 73 of Instructions Book No.16 (i.e. for 1916). The same model featured in various advertisements used in early Meccano Magazines and on the front page of a December issue of the Daily Mail at the beginning of the 1920's.

In common practice with Meccano Instruction Manuals, no details of how to build the model were given apart from the single view similar to Fig.1, but the close-up of the winding drum arrangement seen in Fig.3 shows how the No.1 Clockwork Motor of the day was utilised as part of the Crane's superstructure. Actually, the placing of the Motor in the position shown was a cunning move as it provides a perfect counterbalance for the jib structure. Winding arrangements, however, are crude, to say the least, with a direct drive at full speed from the motor shaft. In the original model, a single reeving of the hoist rope was illustrated which makes the load run up at a ridiculous speed with very little power. The variation shown here improves performance quite a bit.

Highly commendable is the main pivot system for such a simple outfit and this consists of a 11½" Rod supported by the Flanged Plate and passing through to a 5½" Strip bolted across the bottom of the crane carriage. A second Flanged Plate, carrying the winding motor, rests snugly on the 3" Artillery Wheel (without boss in those days) and the upper portion of the long Rod journals in a Double Angle Strip across the back jib struts. Fig.4 shows the jib head with its usual period weakness of using the final pulley shaft as a tie point and tapering pinch for the upper jib struts. This has a nice jamming effect on the pulley shaft and the pulleys (which are the combined Flanged Wheel and Pulley, or Grooved

Flange Wheel of the time) must be left free to rotate. As such, the scuffing action of one flange against its neighbour does not produce an efficient pulley when close coupled and this particular design was phased out in the early 1920's.

Fig.5 shows the pulley block which has several interesting features. The 'peculiar' Coupling of the period had only two transverse bores for Axle Rods, instead of three, and grub screw holes were only tapped on one side. Wide rims were given to the 1" Fixed Pulleys and they, like the Collars, Couplings and other bossed parts in the outfit were only tapped on one side of the boss. Another distinguishing feature is the 'squared-off' end of the Axle Rods (compare with central Rod holding the Pulleys). Spring Clips were in all of the outfits in 1916, but they still had tapered tails on the lugs.

Quite startling for the day was the appearance of "criss-crossed" plates in Meccano models which we know as Braced Girders and these were introduced to the Meccano system at the time in a somewhat peculiar way. To-day we live in a period of increased consumer protection and some of the claims made in early Meccano Literature would come under heavy fire from the Trades Description Acts of recent years. On Page 73 of the 1916 manual, it clearly states, and I quote: "These models can be made with Meccano Outfit No.4 or No.3 and 3a".

Absolute rubbish!

The unsuspecting and eager owner of a new No.4 Meccano Outfit in 1916 would NOT have been able to make this model, but if he had read the cover pages diligently he would have found the following IMPORTANT NOTICE:

"In some of the models throughout this manual we have made use of the Meccano Braced Girders, Large Wheels, Sprocket Wheels, Chain etc., which are only supplied in the Inventor's Accessory Outfit, or as separate parts. We have employed these parts, as they improve the appearance and working of the models, and they also form a suggestion for the use of the Inventor's Accessory Outfit; but in every case the same models may be effectively built with the parts contained in the regular Meccano Outfits".

That last outrageous claim must take the cake for an outright 'con' of the public and nobody could get away

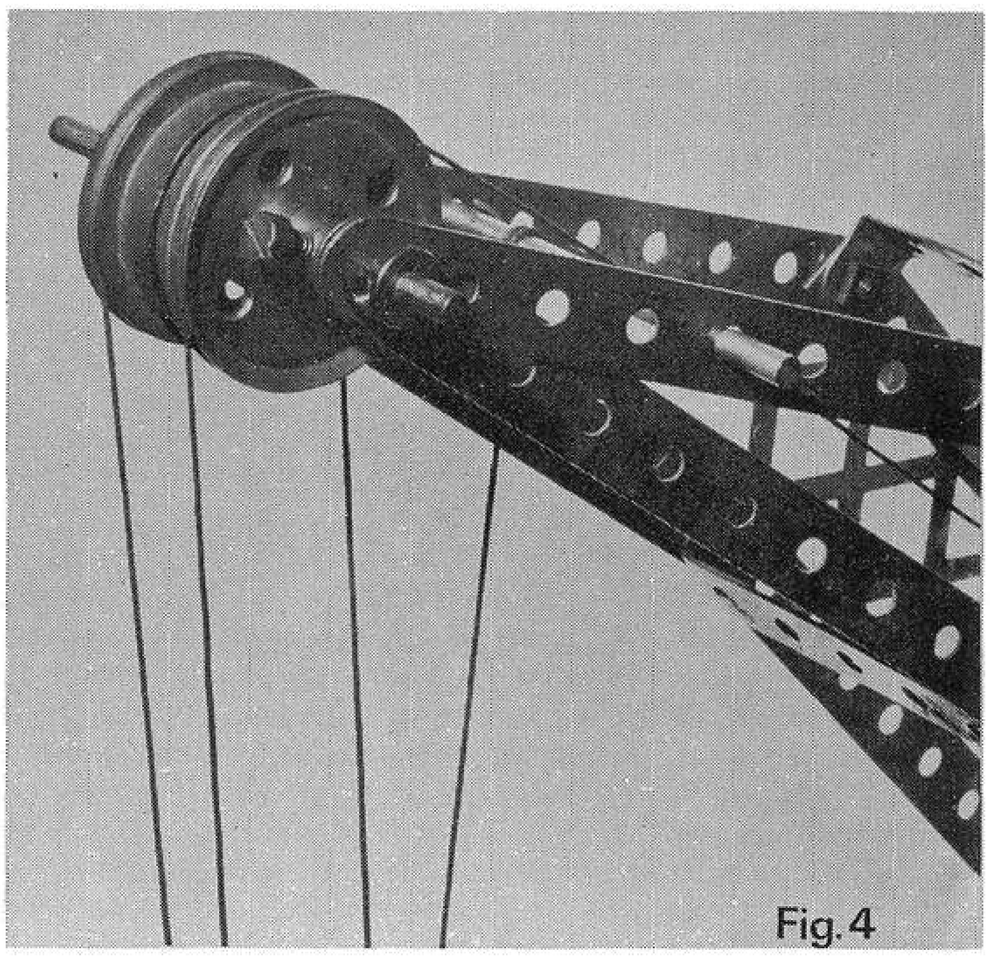


Fig. 4

Fig.4 left, a close-up view of the jib head showing the rather inefficient "pinch" effect. Note the early Flanged and Grooved Wheels.

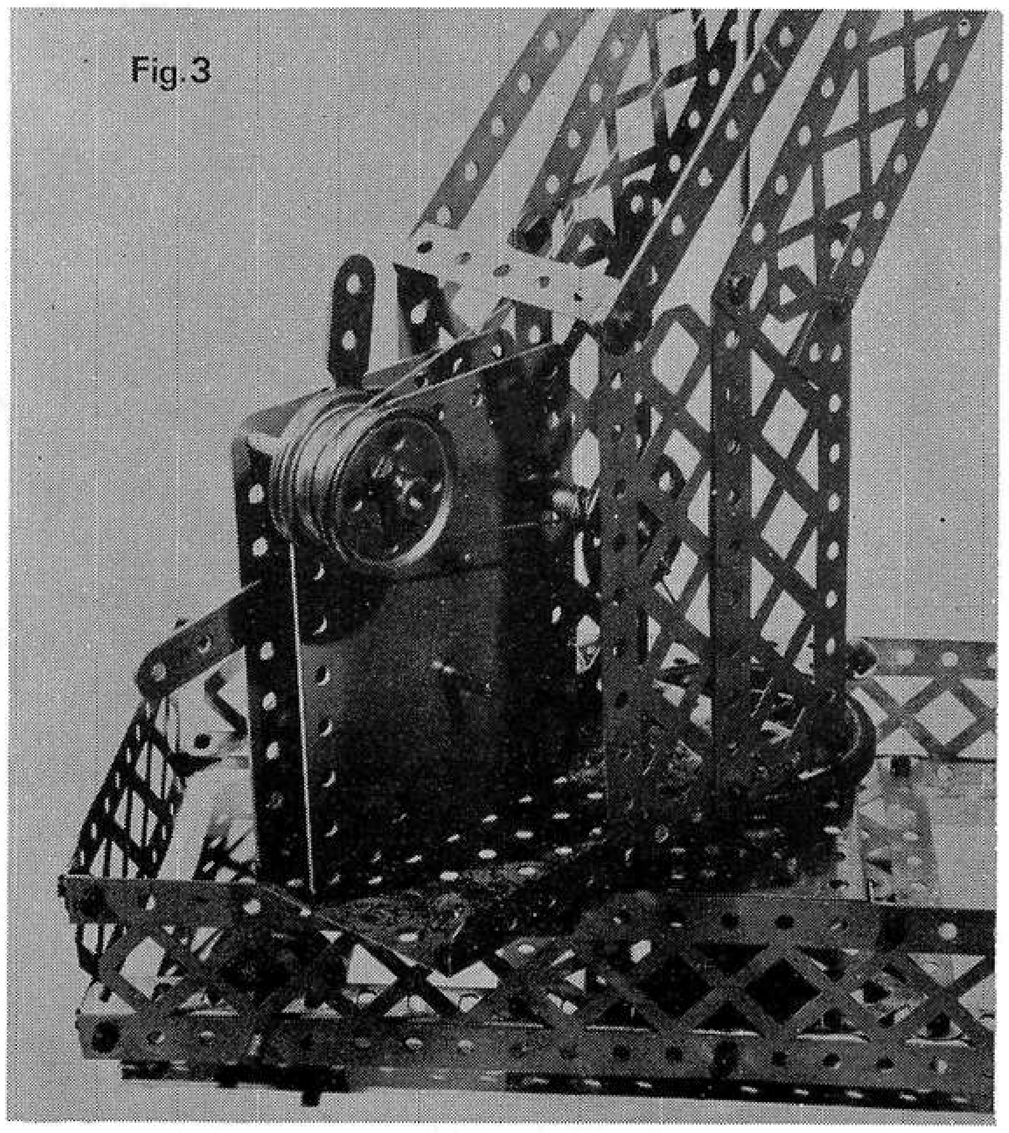


Fig.3

Fig.3, a close-up view of the Crane showing the winding gear utilising the No.1 Clockwork Motor. The Author's baseplate of the period is now showing a little wear – but not bad considering the age of the part!

with bogus claims like that today. Just imagine what happens to the model illustrated when the Braced Girders and Large Wheel are taken away! The mind boggles! It may be argued that Strips contained in the sets could be substituted, but no guidance of any kind along these lines was available to the 1916 boy.

There we are then, a fragment of Meccano history and a model which is quite rewarding to build, if only for its anomalies!

Fig.5 right, pulley block details. Note the early Coupling with only two transverse bores, the square-ended shafts and the tapered-lug Spring Clips.

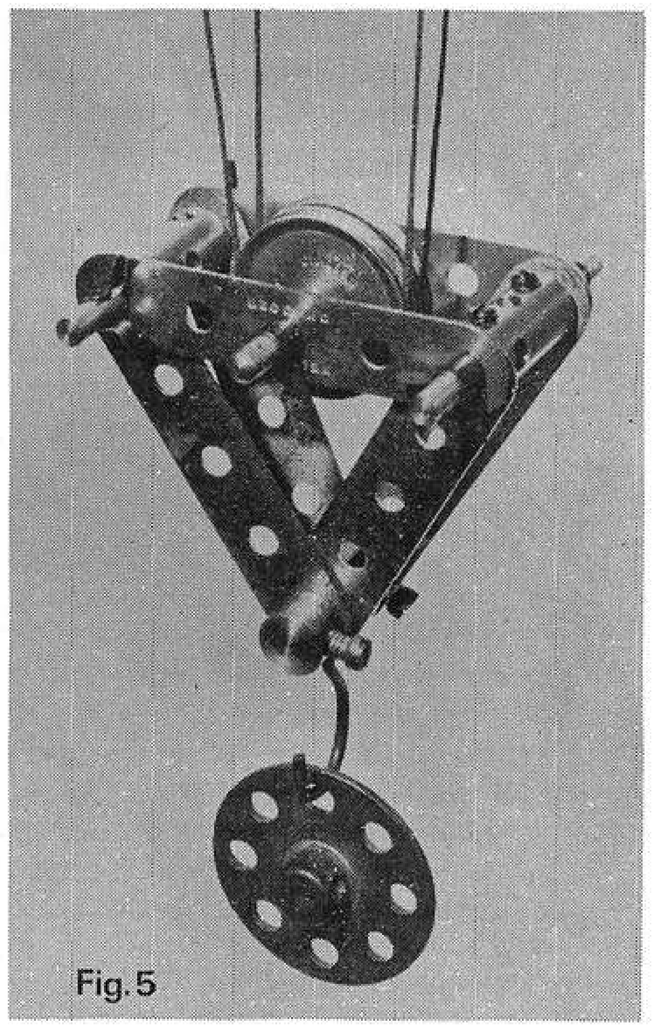


Fig. 5

GRANDAUGHTER CLOCK

An advanced working timepiece designed and built by MMQ reader ROGER WALLIS

EVERYBODY HAS heard of a Grandfather Clock – in fact, we featured a superb example of one in the MMQ a couple of years ago – but what exactly is a *Grandaughter* Clock? Answer: a mini-sized Grandfather!

Take, for instance, this appealing model, designed and built by Roger Wallis of Solihull, West Midlands. At a glance, it *looks* like a Grandfather Clock, but if you were to put it alongside Bert Love's Clock, featured in the October 1973 magazine, you would instantly see the difference: Bert's model stands over 7ft high; this is a charming 2½ feet high! Small in comparison, it might be, though, but it is still an advanced and fully-operating timepiece, capable of running up to 24 hours on one winding. It is built from a No.9 Set, combined with a No.2 Clock Kit, plus four additional Fishplates, and it is driven by a Meccano No. 1 Clockwork Motor.

BASE AND TRUNK

Beginning construction with the base section of the clock case, this is a 7½" x 3½" x 2½" box assembly built up from three 3½" x 2½" Flanged Plates 1, forming the top, and with the front, back and sides provided by Flexible Plates edged by Strips and Girders. The front, built up from two overlapping 4½" x 2½" Flexible Plates (edged along the top by a 7½" Strip, along the bottom by a 7½" Angle Girder and along the sides by two 2½" Strips) is bolted direct to the flanges of Plates 1, as also is the back which is built up from a 5½" x 2½" and a 2½" x 2½" Flexible Plate, edged at top and bottom by 7½" Strips and at the sides by 2½" Strips. Each side, supplied by a 2½" x 2½" and a 2½" x 1½" Flexible Plate, edged at the top by two overlapping 2½" Strips, at the bottom by a 3½" Strip and at the sides by 2½" Strips, is attached to Flanged Plates 1 by the black Angle Brackets in the Clock Kit.

Turning to the case trunk, front corner uprights for this are provided by two 18½" Angle Girders 2, with the rear uprights being 18½" compound angle girders, each built up from two overlapping 12½" Angle Girders. Each front upright is connected to the rear upright by two 3" Strips, one bolted between the lower ends of the Angle Girders and the other one hole from the upper ends. The sides are then each filled in by a 12½" x 2½" Strip Plate, extended by a 5½" x 2½" Flexible Plate, the resulting compound plate being bolted direct to the rear upright Angle Girder, but attached to the front Angle Girder by three Fishplates spaced at intervals along the plate.

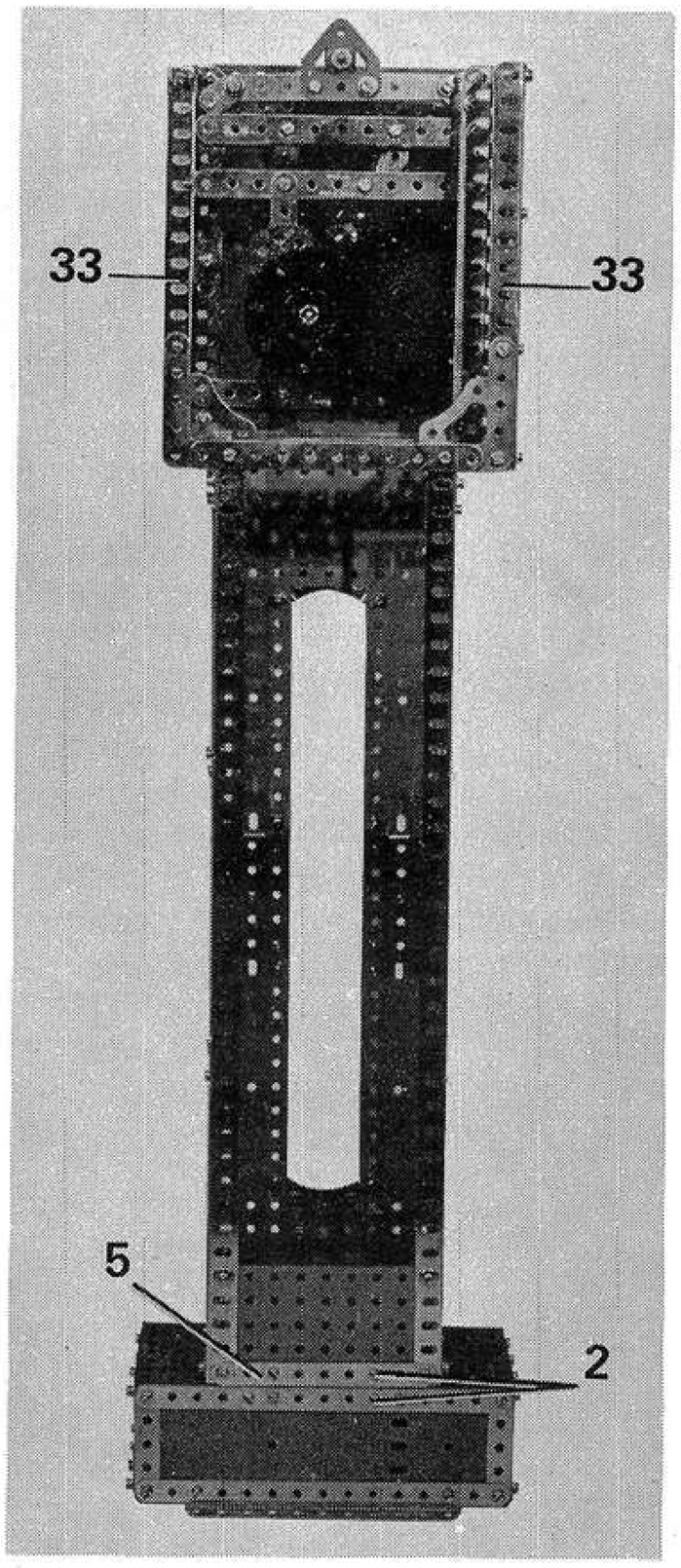
Fixed between the two front Girders 2 are two 4½" Strips one bolted at the lower ends and the other bolted one hole from the upper ends, the securing Bolts in each case helping to hold a 4½" x 2½" Flexible Plate 3 in position. With the exception of a long "window" to later allow observation of the pendulum, the remaining space is then enclosed by a 4½" x 2½" Flat Plate, behind the lower Flexible Plate but projecting upwards two holes, and four 5½" x 2½" Flexible Plates arranged in two uprights pairs, the Plates in each pair separated centrally by a 2½" x 1½" Flanged Plate 4. The inner edges of the Plates – and thus the "window" – are edged by two 12½" Strips connected at top and bottom by a 2½" Stepped Curved Strip. A ¾" Washer is fixed to the centre of each Flanged Plate 4 to provide added decoration.

At the rear of the trunk, a 4½" x 2½" Flat Plate and a 4½" Strip 5 are bolted between the upright girders as shown, then the completed trunk is attached to the base by two Angle Brackets at the front and two Fishplates at the rear.

MECHANISM FRAMEWORK

Surmounting the trunk is the framework for the clock mechanism and care should be taken in building this to ensure that the whole thing is rigid and perfectly "square". The inner framework consists of two similar arrangements, each built up from two upright 7½" Angle Girders 6 connected together at their lower ends by a 5½" Strip 7, then the 7½" Strips in each arrangement are themselves connected together at their upper and lower ends by 2½" Strips 8. Note, however, that the Girders are *spaced only two inches apart*, the 2½" Strips projecting one hole forward in each case.

Bolted inside the rear pair of Girders 6, three holes from the top, is another 5½" Strip 9, *this being spaced from the Girders by a Collar and two Washers on each securing ¾" Bolt.* A 4½" Strip 10, extended at each end by a Fishplate, angled downwards as shown, is attached by ¾" Bolts through the second holes from the top of the Angle Girders, a Collar and three Washers on each Bolt acting as spacers in this case. Two upward-pointing Flat



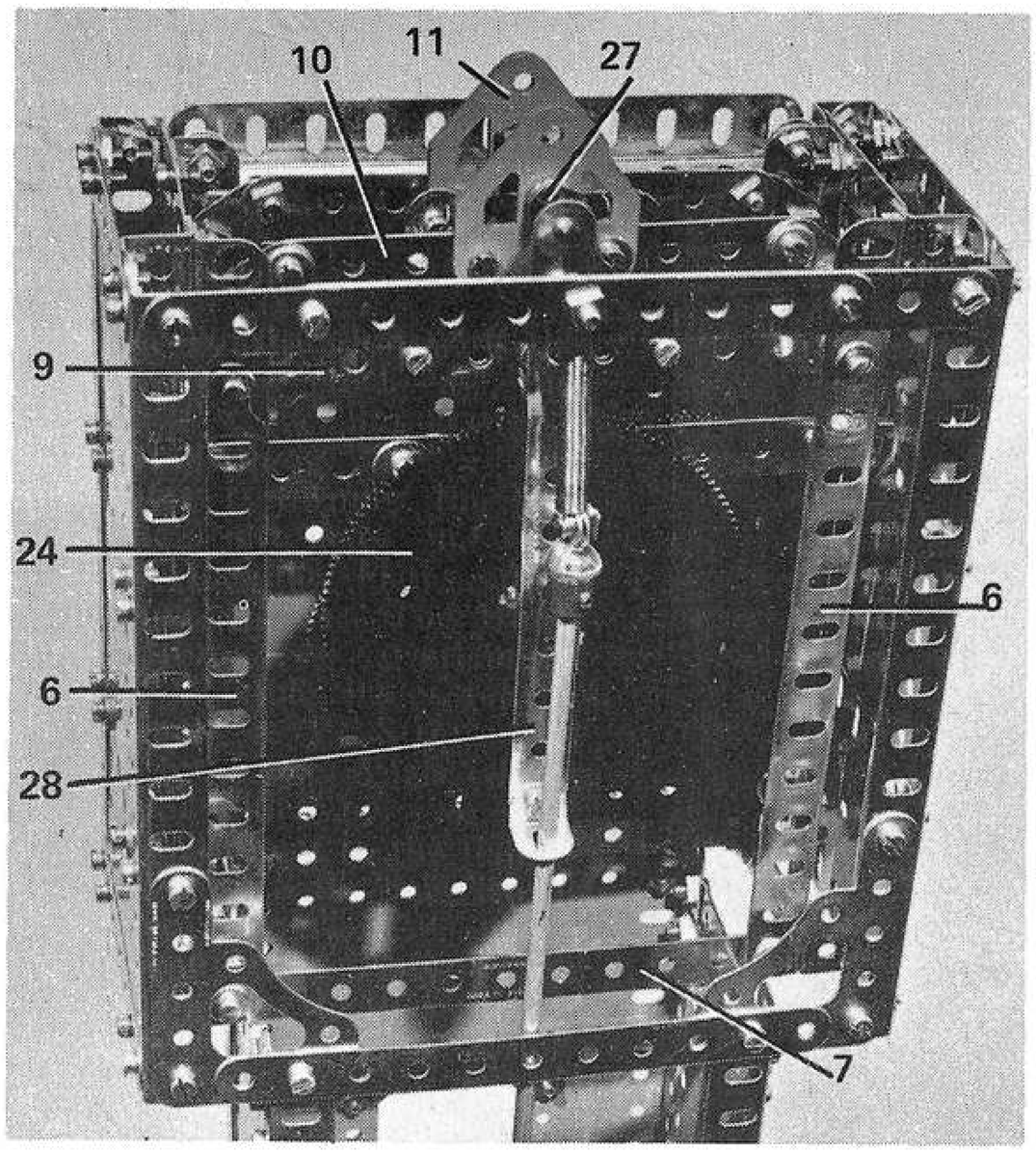
Trunnions 11 are centrally bolted, one to each side of the 4½" Strip, while a 2½" Strip is attached to the centre inside of 5½" Strip 9, being spaced from it by a Washer on the shank of each securing Bolt.

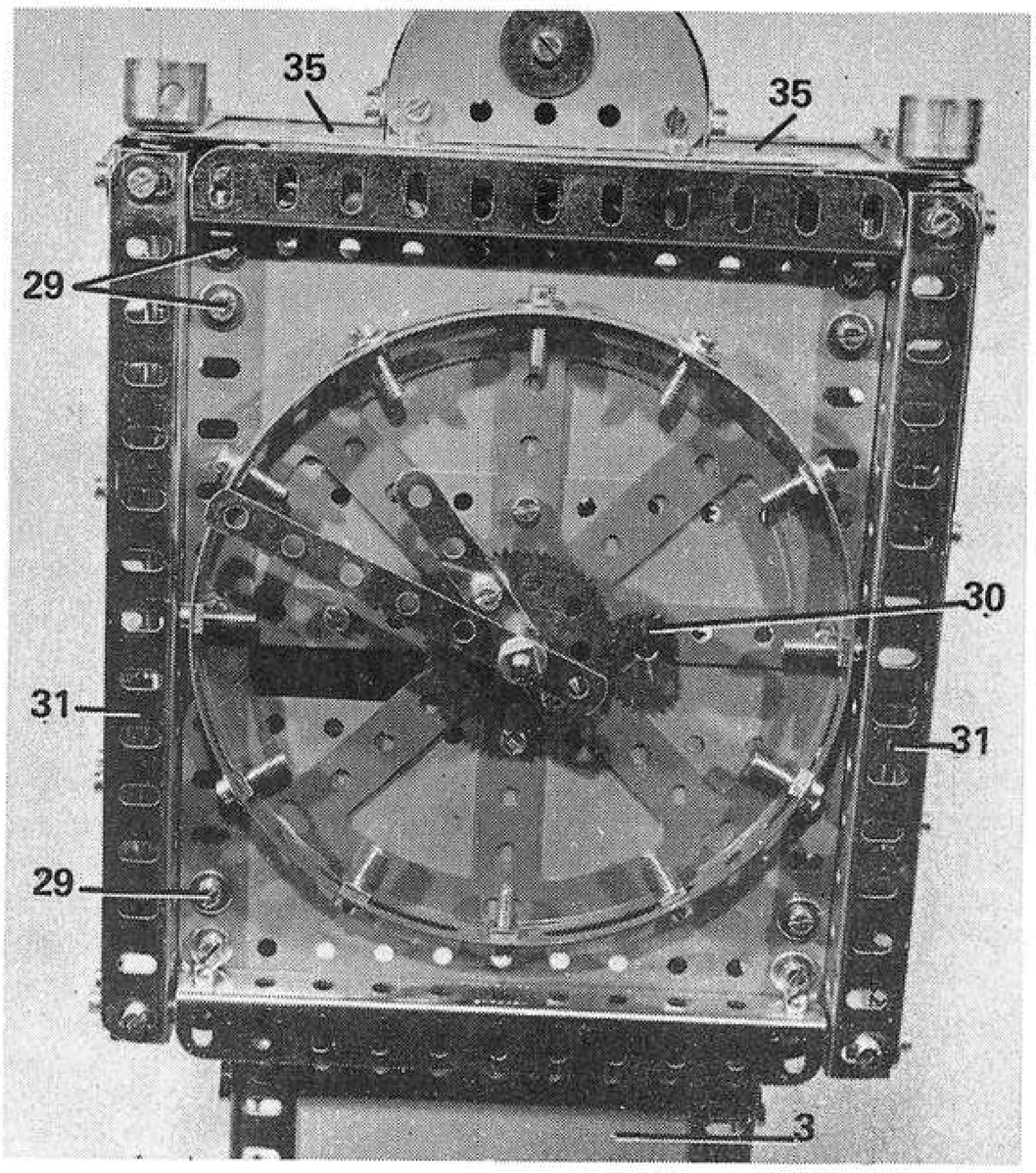
Similar 4½" and 5½" Strip arrangements are bolted between the front frame Angle Girders, with the difference that 3/8" Bolts are used to fix the 5½" Strip (numbered 12) and only three Washers are used on each Bolt for spacing purposes.

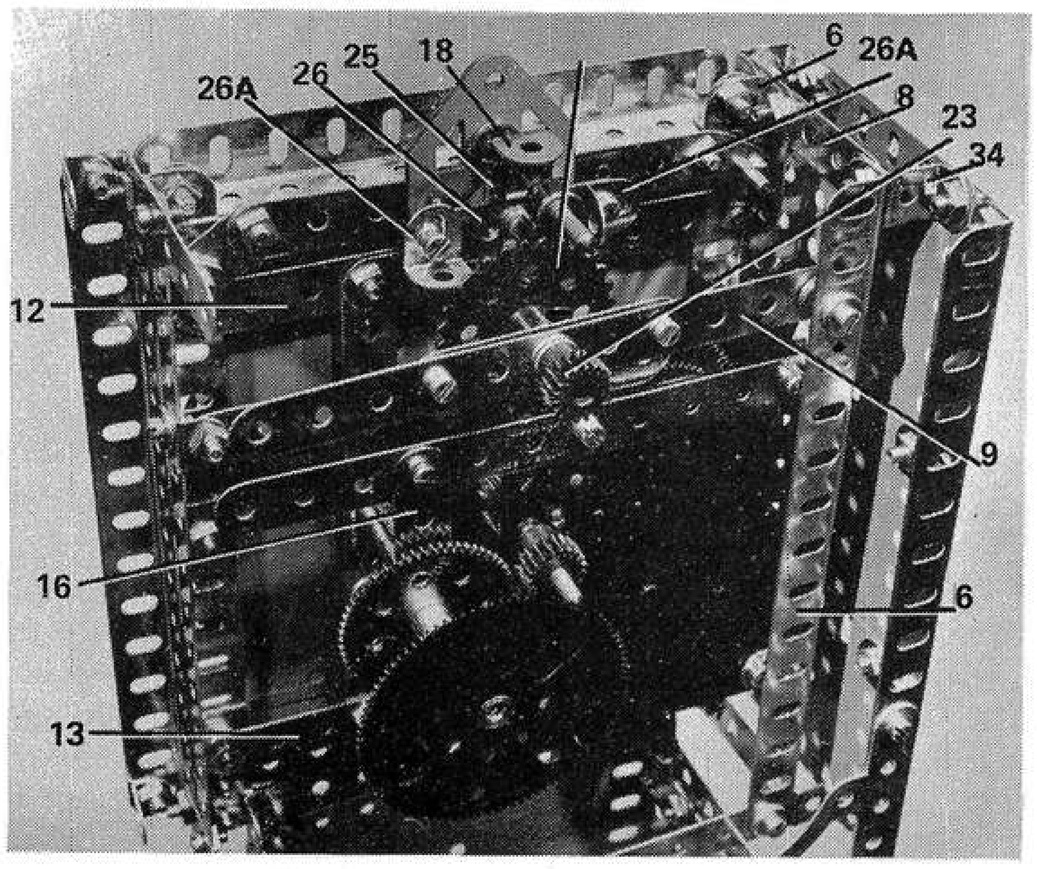
The clock is powered by a No.1 Clockwork Motor, but, before fixing the Motor in position, it is advisable to ensure that it is well, but not over-oiled, paying particular attention to the spring coils and ensuring that they do not bind as they unwind. The Motor, switched to normal running with key shaft to the front, is fixed to right-hand Angle Girders 6 by four Angle Brackets, secured through the fourth and eleventh holes from the bottom of the Angle Girders. The upper edges of the Motor side plates are overlayed by 5½" Strips, the protruding ends of which are connected to left-hand Girders 6 by Angle Brackets.

Next, a 5½" Strip 13 is fixed by 1/8" Bolts between front 7½" Girders 6, but is spaced from the inside of the Girders by three Washers on each securing Bolt. Bolted between this Strip and Strip 12, four holes from the left-hand side, is another, vertical,

Above, a general rear view of the partially-completed Grandaughter Clock. Note that one of the corner mechanism framework Girders has been removed in this view. Below left, a close-up view of the back of the clock mechanism and, below right, the completed clock face.







In this close-up view of the Grandaughter Clock mechanism one of the framework corner Girders has been removed to allow the camera to see more of the internal arrangements. The pendulum and driving 3½" Gear Wheel have also been omitted for the same reason. Construction is not as difficult as it may seem.

←

5½" Strip, through the fourth hole from the bottom of which two Fishplates 14 are fixed, one on each side of the Strip, using the Fishplates' slotted holes. The round holes in the Fishplates will later supply one bearing for a Rod, the other bearing for which is provided by the corresponding holes in two more Fishplates 15 fixed one each side of a vertical 3½" Strip 16 bolted to the upper horizontal 5½" Strip edging the Motor side plates and to a 1½" Strip fixed to the nearby Motor side plate.

CLOCK MECHANISM

At this stage the clock mechanism can be tackled, but, before building begins, it is essential that all of the Axle Rods are brought to a high polish by means of a proprietry metal polish. (In the prototype, "Duraglit" was used). Also, to ensure absolute minimum friction, where Washers are specified for spacing, the domed side of the Washer should rest against the bearing, and where more than one Washer is used, they should be placed back to back so that the domed sections bear against the gear and bearing.

The mechanism itself is not excessively complicated. The motor output shaft is removed and replaced by a 2" Axle Rod on which a ½" Pinion 16 is fixed. This Pinion meshes with a 2½" Gear Wheel 17 on a 2" Rod journalled in Fishplates 14 and 15, the Gear being spaced from the nearby Fishplates by three Washers. Also mounted on the Rod, between the Fishplates, is a ½" Pinion 18 which is loose on the Rod, but which is held in the jaws of a Small Fork Piece 19 fixed on the Rod. The Fork Piece must grip the Pinion firmly as this arrangement serves as the friction drive to the hands. In mesh with the Pinion is a 57-teeth Gear Wheel 20 fixed, boss outwards, on the minute hand shaft – a 3" Rod journalled in the holes in the Motor side plates beneath the motor output shaft. The Gear is spaced from the Motor by two Washers. Fixed on the shaft, behind the motor, is a 7/16" 15-teeth Pinion spaced from the motor by one Washer. This Pinion meshes with a 60-teeth Gear Wheel 21 mounted, boss outwards, on a 2½" Rod 21A held by a Collar in the vertical 5½" and 3½" Strips 16. (The 60-teeth Gear hides the 7/16" Pinion from view in the illustrations).

The escapement wheel is a 1½" Sprocket Wheel 22 which is mounted on a 2" Rod journalled in the centre holes of Strips 9 and 12 and in the overlying 2½" Strips, where it is held in place by a ½" Pinion 23, with Washers being used as spacers. Double Grub Screws are used in the Sprocket Wheel to ensure that it runs as concentrically as possible. If a long-running, i.e. 24 hours, clock is required, the escapement wheel must be double checked for concentricity and freedom from binding. Care taken here will pay dividends when the finished clock is set in operation. In mesh with the Pinion is a 3½" Gear Wheel 24 fixed on the motor output shaft using Double Set Screws. Note that there is an absolute minimum clearance between the faces of this Gear and 2½" Gear 17.

The mechanism should now be tested by running the Clockwork Motor, while watching for tight bearings, accurate gear meshing, and ensuring the gears run true. Any rough running is now removed by polishing the shafts once again, adjusting bearings by loosening fixing Bolts and re-tightening, etc. As a guide to the setting up of the mechanism – on a run-down motor, the prototype clock needed only one complete turn of the winding key to enable the escapement wheel to spin.

ESCAPEMENT

We come, now, to the escapement itself. A Slide Piece 25 is slipped over the long lug of a 1" x ½" Angle Bracket, to the slotted hole of which a 5-hole 2" Strip 26 is bolted by its centre hole. The Strip pushes firmly against the Slide Piece to make one solid unit, then to each end of the Strip an Angle Bracket 26a is bolted, as shown, one of the Brackets being mounted vertically and the other horizontally. The complete assembly is then fixed by means of the Slide Piece boss on a short Rod which is journalled in the centre vertical holes of Trunnions 11, where it is held in place by a Collar.

Mounted on the rear protruding end of the escapement Rod is a Coupling 27, to which a 5½" Strip 28 is bolted. This Strip is carefully bent so that it clears the boss of the 3½" Gear 24, noting that the distance between the Gear and Strip should be equivalent to the thickness of a Washer. An Angle Bracket is bolted to the lower end of the Strip, after which the escapement should be set up and tested. Once again, this needs some patience, but care at this stage will result in long-running.

The Angle Brackets in the escapement are adjusted so that, as one is in the dwell of the teeth of the Sprocket Wheel, the other is just clearing a tooth. When the pendulum Strip 28 is swung over, the second Angle Bracket should now be in the dwell of a tooth, and the first just clearing the next tooth. The Motor can now be wound up and the escapement tried under power. The Angle Brackets are minutely adjusted, as necessary, until only a few turns of the motor key allow the pendulum Strip to swing under the control of the motor.

CLOCK HEAD

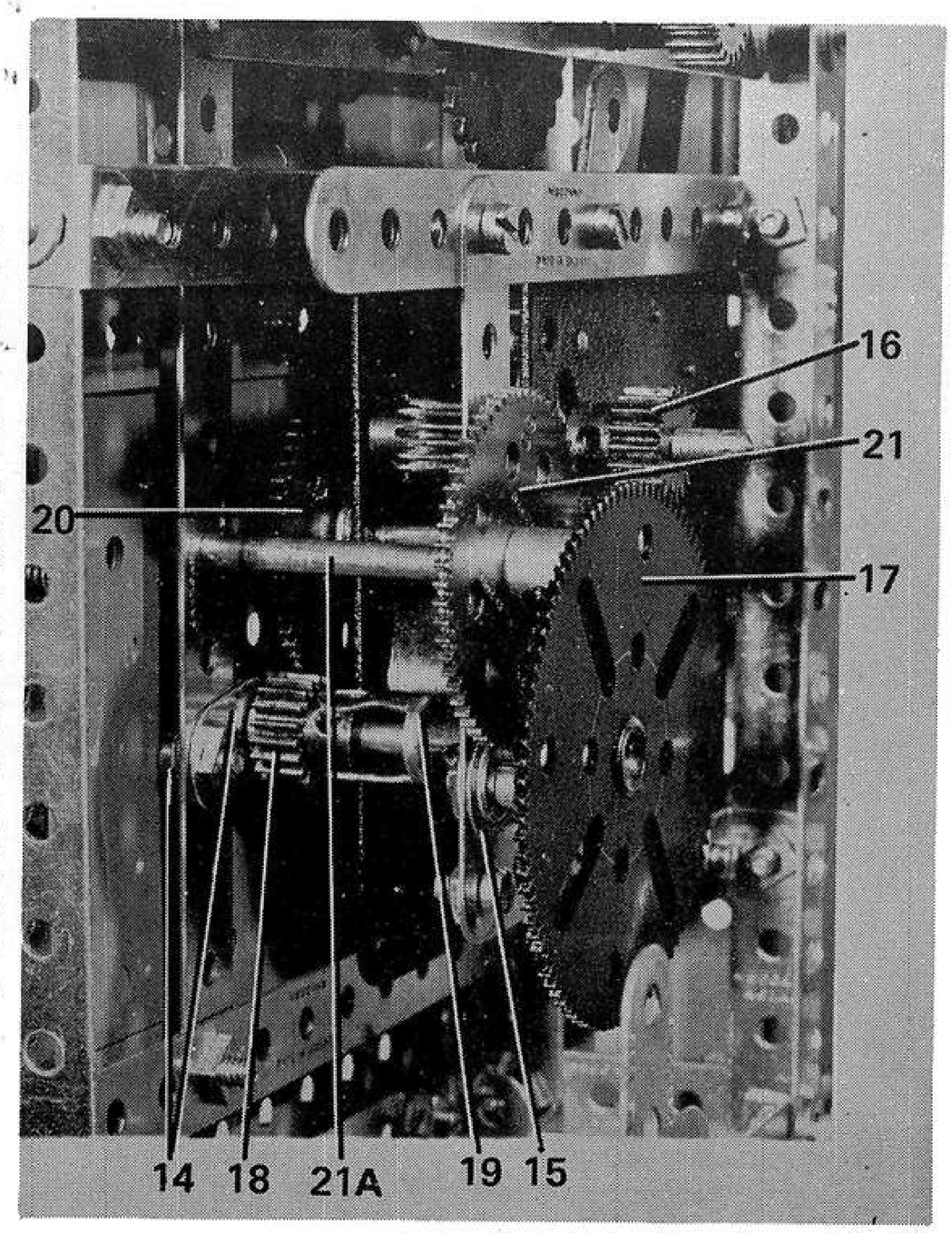
Coming next to the head of the clock the face consists of a 5½" x 1½", a 2½" x 2½" and two 5½" x 2½" Plastic Plates, arranged as shown, and overlayed by a Hub Disc, the complete assembly being fixed to the front 7½" Angle Girders 6 of the mechanism frame using the long Bolts (29) holding the 4½" and 5½" Strips of the mechanism front. These Strips should be removed and refitted with the Plastic Plates in place and, with the mechanisms set up as previously described, it is a relatively simple operation to refit the Strips in their correct positions.

With the clock face fitted, Rod 21A should project through a hole in the face. Fixed on the end of this Rod is a ½" Pinion 30 which drives a 57-teeth Gear Wheel, *loose* on the minute hand shaft which also projects through the clock face. Bolted to the face of this Gear is a 2½" Narrow Strip, spaced from the Gear by two Washers, which serves as the hour hand. The minute hand is a 3½" Narrow Strip, mounted on a Rod Socket fixed on the end of the minute hand shaft. The clock digits are ½" Bolts held in the rim of the Hub Disc by Nuts. Their correct positions are found by placing the two hands at the twelve o'clock position and fixing the first Bolt. One revolution of the minute hand will show the hour hand pointing to the position where the next digit is to be placed, and so on round the full twelve-hour circle.

The sides of the face are completed by 7½" Angle Girders 31 which are bolted to the 2½" Strips projecting from the clock mechanism. The upper and lower sections of the face are framed by two 5½" Angle Girders fixed by Angle Brackets to the uprights of the mechanism.

Each side of the clock head is similar in construction, consisting of a 7½" x 2½" compound flexible plate (built up from one 5½" x 2½" and one 2½" x 2½" Flexible Plate), edged at top and bottom by 3½" Strips attached to the ends of nearby Angle Girders 31 by Angle Brackets. The Bolts fixing the 3½" Strips to the Angle Brackets also secure a vertical 7½" Strip 32 between the two 3½" Strips. The rear ends of the 3½" Strips are connected by a vertical 7½" Angle Girder 33, the compound plate being attached to this and the 7½" Strip by strategically-placed Fishplates. Two ½" Reversed Angle Brackets 34, bolted one through the second hole from the rear of each 3½" Strip, help to fix the head sides to the mechanism frame. At the rear of the clock, Angle Girders 33 at each side are connected, at the top, by two overlapping 5½" Strips and, at the bottom, by one 5½" Strip braced by Corner Gussets.

The top of the clock head is built up from two 6½" compound strips (provided by two overlapping 5½" Strips), connected together at each end by a 3½" Strip. A 2½" x 2½" Flexible Plate 35 is bolted to each 3½" Strip, a 2½" x ½" Double Angle Strip being bolted to the top of the inner edge of this Flexible Plate. Bolted on to the lugs of the Double Angle Strips are two Semi-circular Plates 36, then the top is completed by two 2½" x 2½" Curved Plates attached to the Double Angle Strips by Angle Brackets and arranged to follow the contours of the Semi-circular Plates. Decoration is provided by a ¾" Washer bolted to the centre of the front Semi-circular Plate, and by two Chimney Adaptors, one at each front corner, as shown.



Another close-up view of the clock mechanism as seen more from the side, with the 3½" Gear and nearside corner Angle Girder still removed to allow a clearer view. Note Pinion 18 held in the arms of Small Fork Piece 19, this arrangement serving as a friction clutch to permit the hands of the clock to be turned without damaging the mechanism. Note also that Fishplates 14 and 15 must be set absolutely accurately to ensure that the dependent gears mesh correctly.

It now only remains to complete the pendulum, which consists of a 9" Pendulum Rod from the Clock Kit, a 3½" Axle Rod and an Adaptor for Screwed Rod, all joined together by Rod Connectors. The pendulum is extended downwards by a 6" Screwed Rod held in the Adaptor and mounted on the Screwed Rod is the bob weight. This is built up from six Wheel Discs fixed by ¾" Bolts to a Bush Wheel, the Threaded Rod being screwed through the tapped bores in the boss of this Bush Wheel.

The completed pendulum is inserted through the Angle Bracket attached to the previously-mentioned 5½" pendulum Strip 28, and an End Bearing 37 is fixed on the upper end of the pendulum rod. Finally, a Tension Spring is attached to the End Bearing, the other end of the Spring being fixed by a ½" Bolt to the centre of the compound 6½" strip at the rear of the clock head.

The completed clock can now be tested by winding the Motor and setting the pendulum swinging, after ensuring that the clock is standing firm and upright by adjusting the 5½" Angle Girder at the rear of the base. If the setting-up procedure described previously has been carefully followed, the tick of the escapement should be found to be regular and even. Any discrepancy should be removed by slightly adjusting the relationship between the pendulum and the escapement. A careful study of the escapement Angle Brackets in motion, particularly as the Motor runs down, should detect any minor adjustments that may be needed.

PARTS REQUIRED

2-1	1-16b	2-51	1-166
5-1b	4-17	3-53	1-173a
17-2	1-24	2-53a	1-179
5-2a	6-24a	8-59	2-188
9-3	4-26	1-63	4-189
4-4	1-26c	1-79a	7-190
18-5	2-27a	2-90a	4-191
1-6	1-27b	1-95a	5-192
1-6a	1-27c	2-108	1-194a
2-7a	1-27d	8-111	1-194d
4-8	243-37b	14-111a	2-194e
9-8b	275-37a/c	6-111c	2-197
3-9	134-38	1-116a	2-200
26-10	4-38d	1-118	2-213
30-12	1-43	4-125	2-214
1-12b	2-48a	4-126a	1-235
1-16	1-50	2-164	1-235b
1-16a			1-252

1 No.1 Clockwork Motor.

The Meccano Motor Chassis

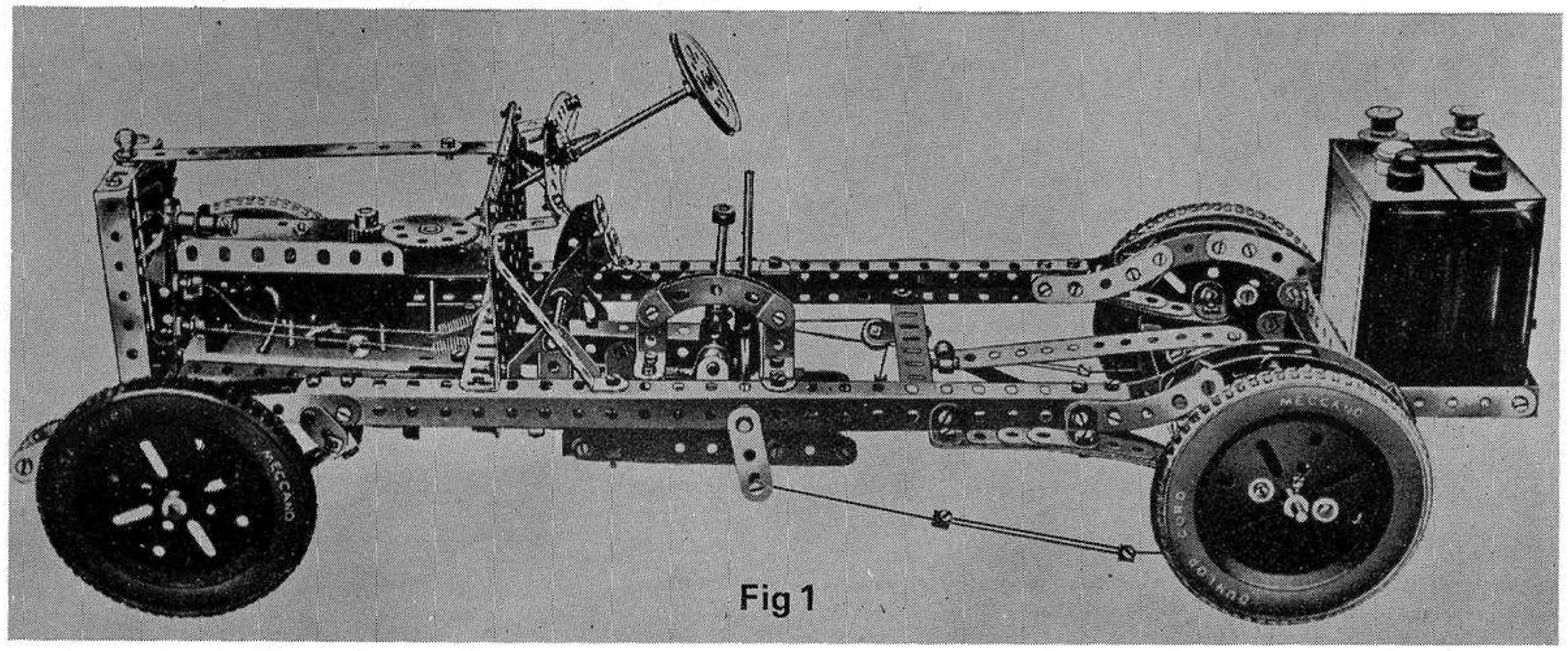


Fig 1

REQUESTS FOR building instructions for Motor Chassis models feature regularly in our mail, so it is with pleasure that we present here an edited version of the most popular Super Model of the late 1920's. Our heading illustration is actually taken from the earlier No.1 Special Instructions Leaflet of 1928 showing the rarer picture of the chassis fitted with the Meccano 8 ampere accumulator of the period. Later leaflets omitted the accumulator, but the building instructions remained unaltered. The Chassis may be built from the standard range of Meccano parts, but a modern electric motor (E15R) is required to replace the original 4 volt motor of 1928. Owing to space restrictions, it has been necessary to split the building instructions into two parts, with Part 1 here and Part 2 following in the next issue.

"Past Masters" 7

Part 1: Chassis Frame & Steering Gear.

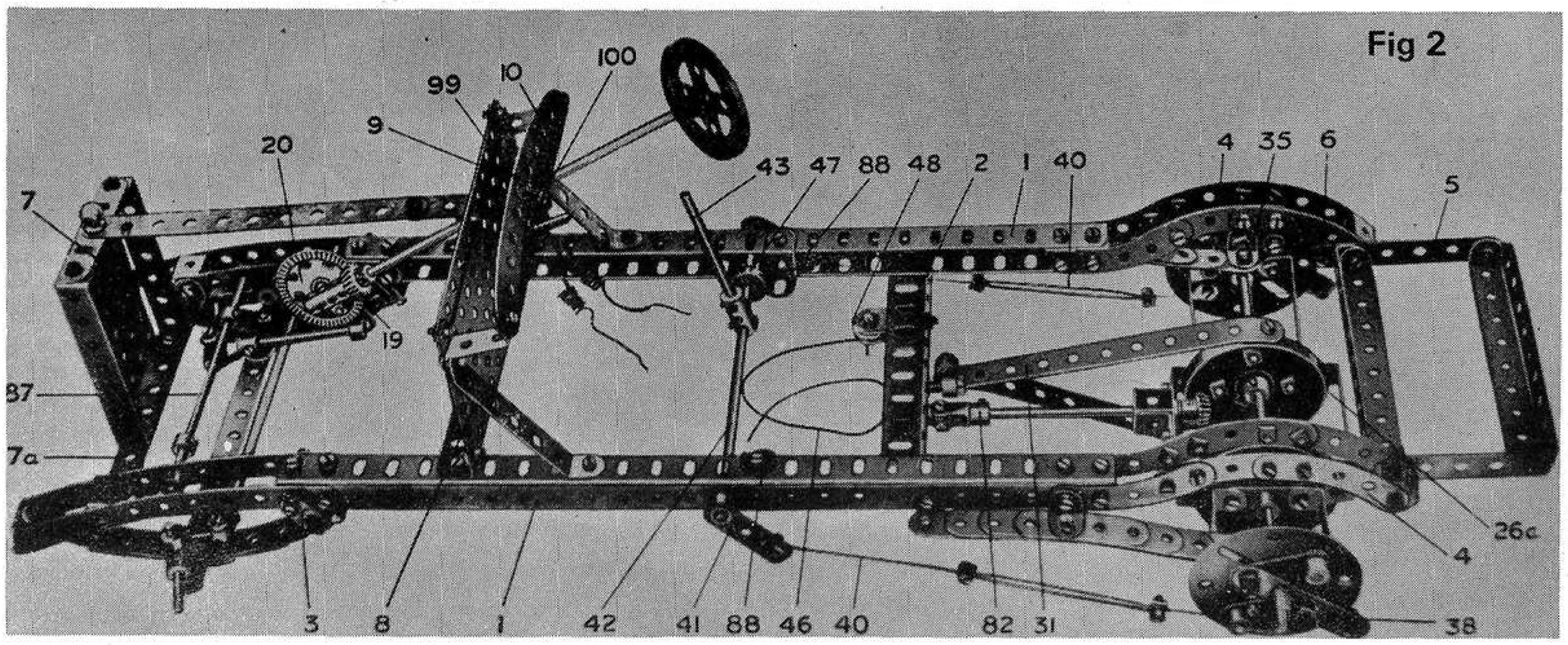


Fig 2

Construction of the model should begin with the main frame which is shown most clearly in fig. 2. Each side consists of two 12½" Angle Girders 1 bolted together in the form of a channel girder to give maximum rigidity. The side girders are held together by a cross member 2, supplied by a 5½" Angle Girder, and their front ends are extended by 5½" Curved Strips to carry the ends of the front semi-elliptic springs. Each inner 5½" Curved Strip is secured to the upper Girder of its respective side member by means of two Angle Brackets. Two of the Bolts that serve to secure the Curved Strips also serve as pivots for the shackles (Fishplates 3) supporting the rear ends of the front springs. The Bolts should be secured to the side members by two locked Nuts so that the Fishplates are quite free to turn on their shanks.

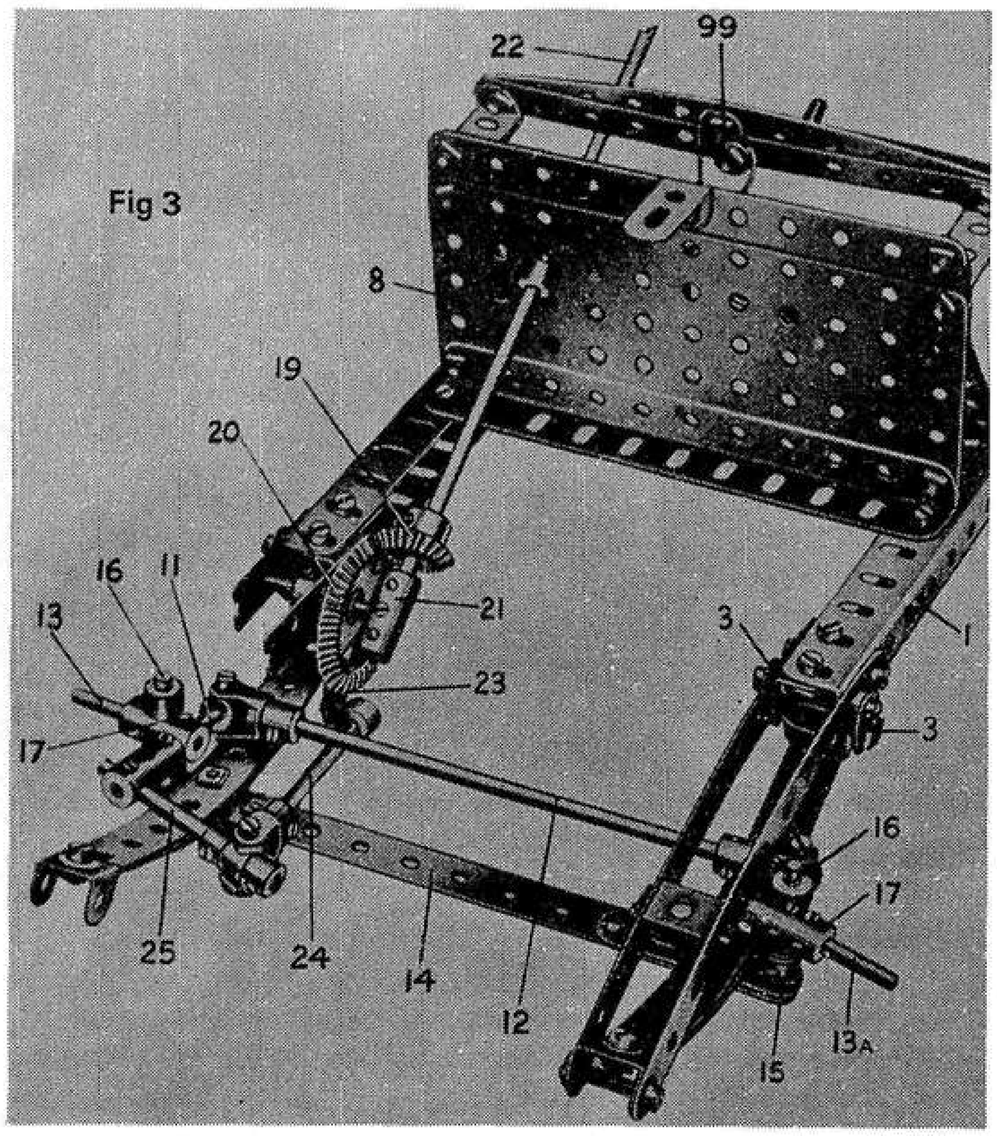
FRAME AND SPRINGS

The main frame is extended and carried over the back axle by means of a series of 2½" large radius Curved Strips 4 bolted together in the manner shown. The luggage carrier 5 is composed of two 3" Strips connected by four 4½" x ½" Double Angle Strips. The carrier is bolted to the end holes in the main frame, and Nuts on Bolts 6 inserted in the end holes of the 3" Strips strike against the Curved Strips 4 and thereby maintain the carrier in a horizontal position. The retaining Bolts are fitted with lock-nuts so that, when the carrier is not in use, it may be folded back.

The radiator is represented by a 3½" x 2½" Flanged Plate 7 with two 3½" x ½" Double Angle Strips bolted at the sides. It is secured to a 4½" Strip 7a mounted between the front 5½" Curved Strips of the frame. A vertically-mounted 5½" x 2½" Flat Plate 8 is secured to a 5½" Angle Girder bolted to the main side Girders 1 and is extended at the top by a 5½" Strip 9 secured at each end by Fishplates. The dashboard 10 consists of a 5½" Strip and a 5½" Curved Strip attached to Plate 8 by means of two 1" Reversed Angle Brackets, the outer ends of which should be bent slightly to obtain the correct angle for the dashboard. (By using a 5½" Insulated Strip from the Electrical Set instead of the standard Strip across the dashboard, a Fishplate fitted with a Threaded Pin may be lock-nutted to its centre to act as a simple contact-to-chassis switch for the Meccano Electric Motor.)

It will be seen from fig. 5 that the front springs are of the semi-elliptic type, and that each consists of one 5½", one 4½", one 3½",

Opposite page: Fig. 1, an illustration of the original Meccano Motor Chassis reproduced from the No. 1 Special Instructions Leaflet of 1928; Fig. 2, a view of the frame showing springs, steering column, brakes and rear axle with differential removed. Right, Fig. 3, the front end of the chassis showing the steering mechanism.



one 2½" and one 1½" Strip, placed one upon the other and slightly bent. Each end of the 5½" Strip is secured to a Double Bracket, the rear Double Bracket being bolted pivotally to Fishplates 3 and the front Double Bracket being mounted on a ¾" Bolt passed through the side frame members. Rear springs are of the cantilever type, and one of them is shown in detail in fig. 6. Each spring is built up from the same components as the front springs and is attached rigidly to the frame by Angle Brackets.

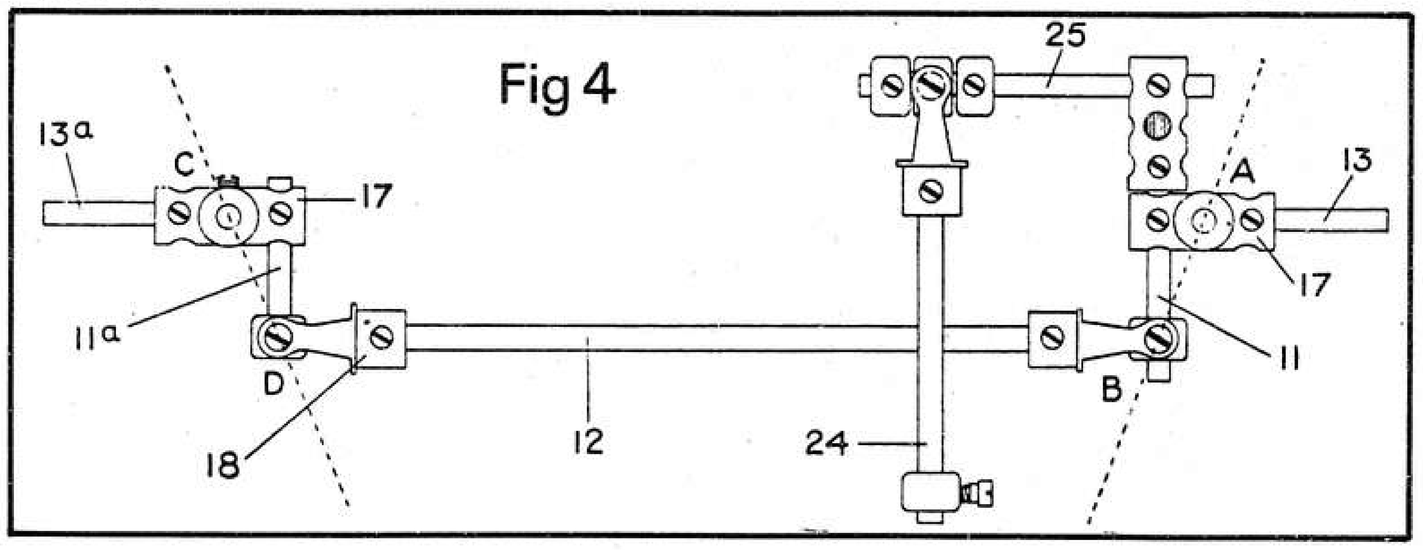
CHASSIS STEERING GEAR

In Meccano practice it has been found a little difficult to secure the necessary angles in the levers and at the same time maintain a perfectly rigid construction, and therefore a slightly different method has been adopted. This comprises short Rods 11 and 11a secured just behind the stub axles and protruding backwards. They are connected together by a 5" Rod 12. A plan view of this linkage is shown in fig. 4 and it will be seen from the drawing that imaginary lines, AB and CD, drawn through the pivotal mountings of the stub axles and through the points where the tie-rod 12 is attached to Rods 11 and 11a correspond roughly to the angles at which the levers would be placed in actual practice. Thus, this arrangement of the linkage fulfils the essential requirements of the Ackermann steering gear, i.e. it imparts a greater angular movement to the inner road wheel when the car turns a corner.

Mounting of the stub axles 13a is shown in detail in fig. 5. The fixed front axle 14 consists of two 5½" Strips overlapped nine holes and supporting a Crank 15 at each end. A 1½" Rod 16, secured in each Crank, serves as a vertical swivel pin upon which a Coupling 17 carrying the stub axles (a 1" Rod) is free

→

Fig. 4, plan of steering mechanism which follows the Ackermann principle.



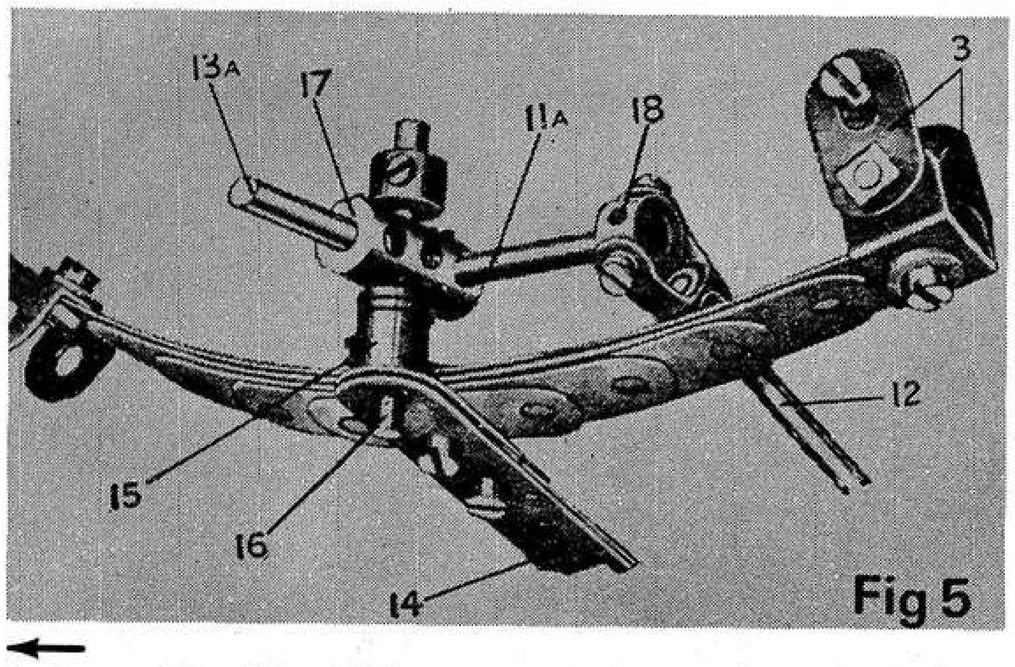


Fig 5

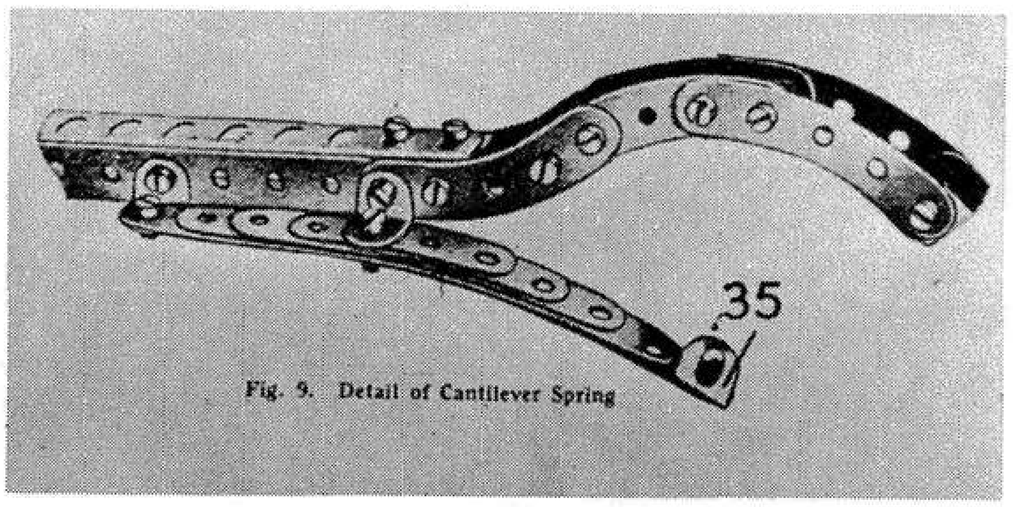


Fig. 9. Detail of Cantilever Spring

Left, Fig.5, a close-up view showing the left-hand front leaf spring and stub axle. Above, Fig.6, showing the left-hand rear cantilever spring.

to turn. Coupling 17 in fig. 5 carries the 1" Rod 11a, to which is secured a Swivel Bearing 18, the fork of which is fixed to tie-rod 12. The other end of the tie-rod is connected to the other stub axle by another Swivel Bearing secured to the 1½" Rod 11.

COLUMN GEAR REDUCTION

In car practice, steering column gear reduction is effected in various ways, principly by worm and nut mechanism, but in the Meccano model the most convenient method was found by gearing a ½" Bevel Wheel 19 with a 1½" Bevel Wheel 20. The latter is free to turn on a 1½" Rod journalled in the side frame member and secured in the centre of a Coupling 21. One end of this Coupling forms a journal bearing for the end of the steering column 22, which consists of an 8" Rod carrying a 2" Pulley Wheel to represent the steering wheel. A Fishplate 23 bolted to Bevel 20 forms the steering lever, and a Set Screw passed through its elongated hole is used to secure a Collar to the 2½" Rod 24. The other end of this Rod carries a Swivel Bearing, the 'spider' of which is free to turn between two Collars and Set Screws on the 2" Rod 25. Nuts should be placed on the Bolts against the spider to hold the Bolts rigid without gripping Rod 25. The latter Rod is fixed in a Coupling secured to Rod 11.

The fixed front axle 14 is secured to the front chassis springs by means of 3/8" Bolts. The Cranks 15 should be bent so that the fixed swivel pins 16 are slightly out of the vertical, with their upper ends pointing outwards. This brings the points of contact between the front wheels and the ground as nearly as possible beneath the centres of the swivel pins.

BACK AXLE AND TORQUE RODS

The back axle, which really consists of a fixed hollow casing, is represented in the model by a framework of Strips, etc., that provides suitable bearings for the two axle shafts and also forms a rigid connection between the fixed portions of the rear wheel brakes. The differential is housed in the back axles between two Wheel Flanges 26, and 26a, each of which is bolted against the inner side of a 2½" x 1½" Double Angle Strip. These Double Angle Strips are secured rigidly together by means of 3" Strips 26b, and their centre holes form the inner bearings for the axle shafts 27 and 28. In addition, shaft 28 passes through the centre hole of a 2½" x ½" Double Angle Strip 29 bolted to Wheel Flange 26a. One Washer should be placed between the Wheel Flange and Double Angle Strip 29 on each of the Bolts that hold the latter in position. The rear wheel brake mountings consist of two Fishplates 30 bolted rigidly to the back axle casing, one being secured to the end of two 1" Reversed Angle Brackets and the other to the ends of two 2½" x ½" Double Angle Strips.

In the case of the torque rods, these consist of two 5½" Strips 31 secured to the ends of Double Angle Strip 29. These 5½" Strips taper together at their other ends, where they are secured to a Collar 32 by means of an ordinary Bolt inserted in place of the Grub Screw. Two Washers should be placed beneath the head of the Bolt to prevent its shank from binding on the ½" Bolt 33, about which the Collar is free to pivot. The latter Bolt, in turn, is inserted in another Collar revolving on a Pivot Bolt 34 secured to a 5½" Angle Girder 2 which forms the main cross member of the frame. A compression Spring is placed between the Collar and the Girder to act as a shock absorber when the back axle is forced up and down by irregularities in the road surface.

It will now be seen that the torque rods 31 effectively counteract any twisting tendency in the back axle without interfering with the free vertical movement of the latter as a whole, or the independent movement of one or other of the rear wheels. The back axle casing is secured to the rear cantilever springs by an Angle Bracket 35 secured to each Face Plate 30. These Angle Brackets are bolted to the end holes of the springs as can be seen in fig. 2.

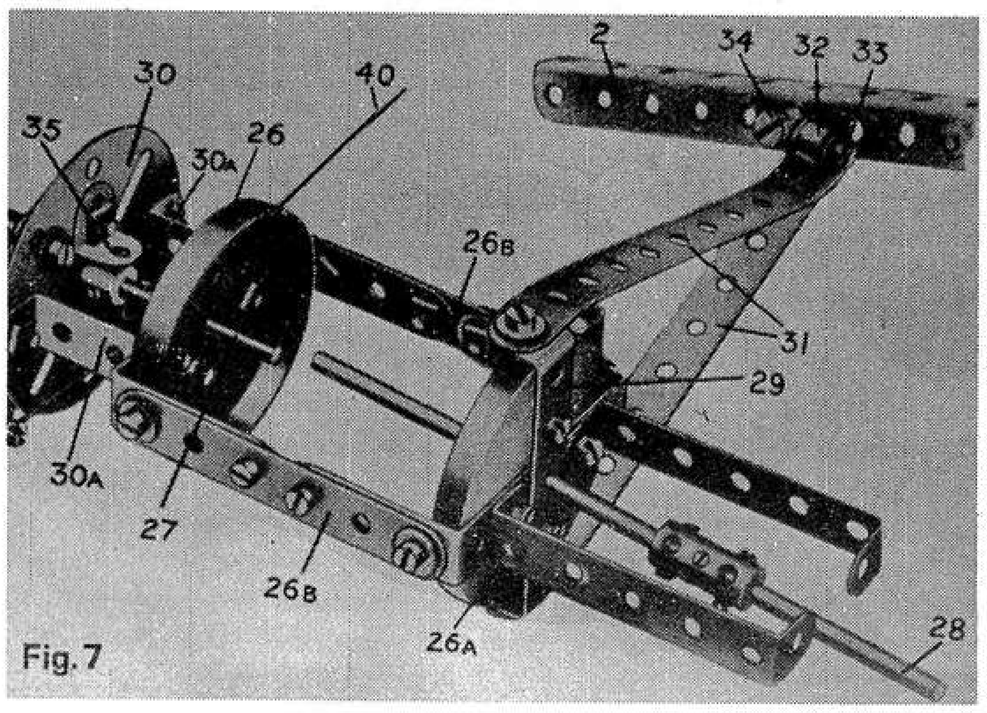


Fig. 7

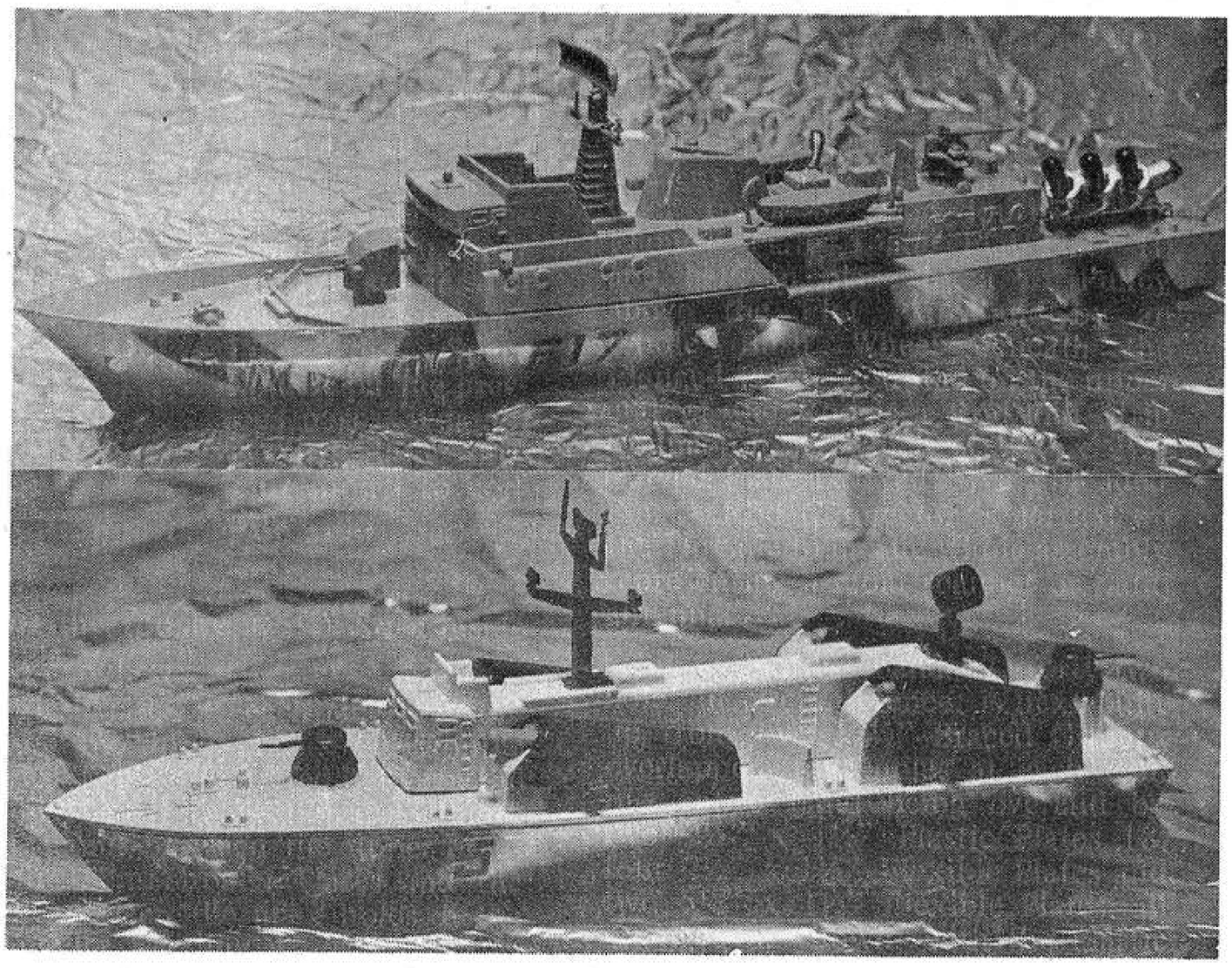
Fig. 7, a close-up view showing the back axle casing and torque rods. The differential has been removed for this shot. The remaining illustrations required to complete the model will be included with Part 2 of the feature to be published in the next MMQ.

The Parts Required list for this model will be found on Page 13.

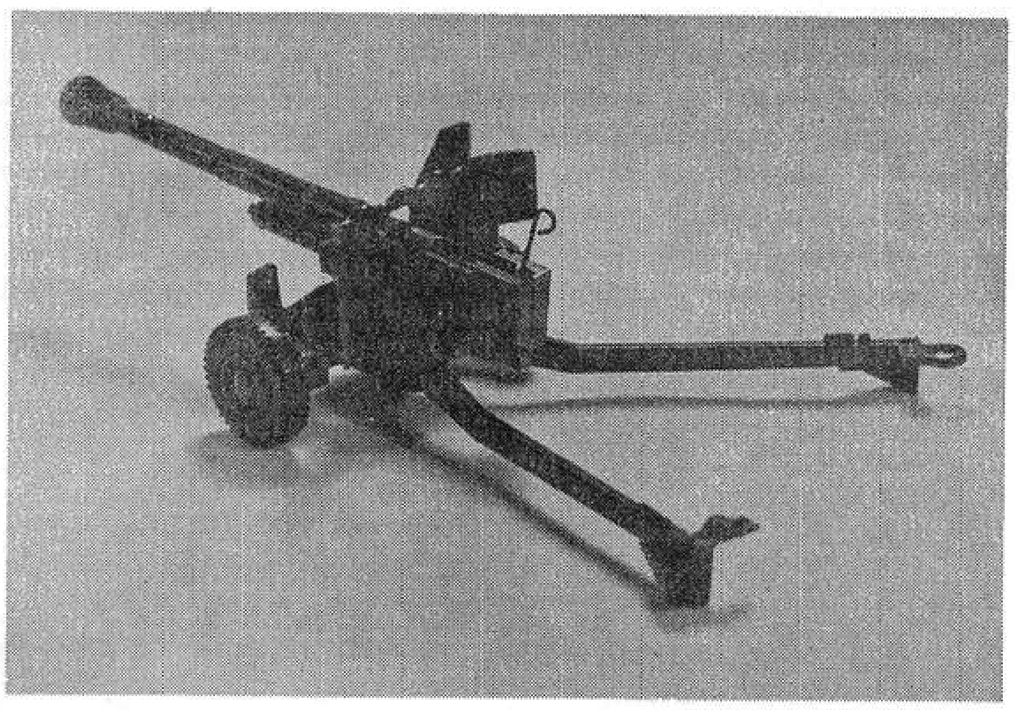
The second and concluding part of this article will be published in the April 1976 edition of the MMQ where we will be dealing with the gearbox, transmission, differential and brakes. Make sure you get your copy!

DINKY TOYS NEWS

A look at the new Dinky Toy models released since the last issue of "Meccano Magazine Quarterly".

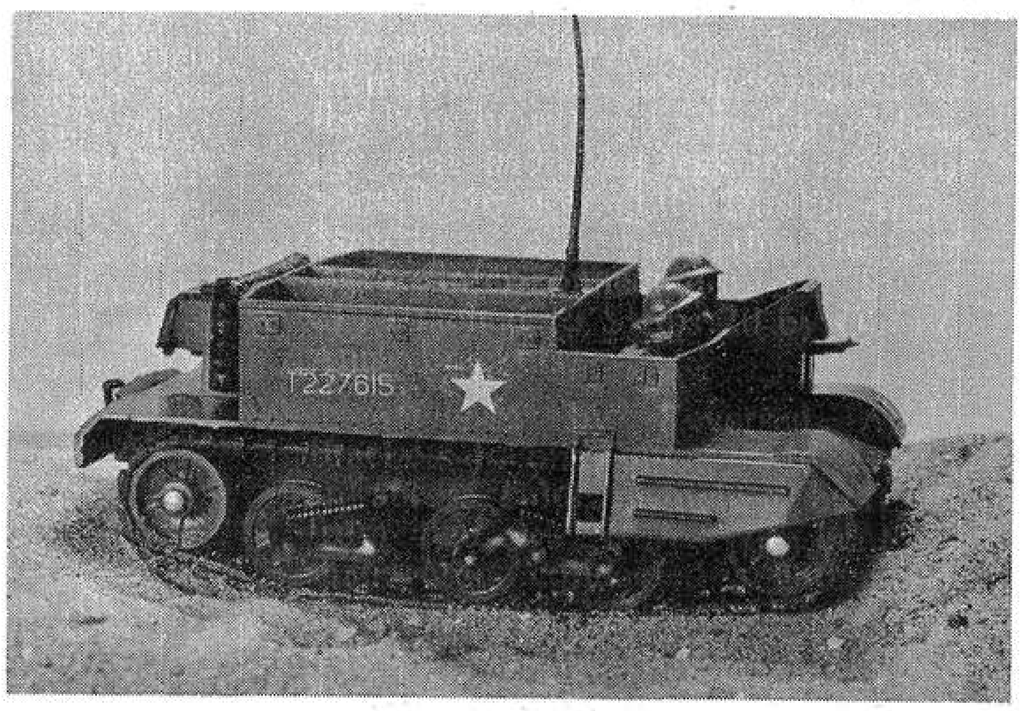


Right (above), No. 671 Mk.1. Corvette, measuring no less than 260mm. in length! Features include a 3-barrel anti-submarine mortar which, when tilted, fires three plastic mortar charges, in sequence, over the bows. In addition, it sports two rotatable deck guns, two moulded lifeboats on davits, and a mast. Mounted on four concealed Speedwheels, the Corvette is finished overall in grey with a light brown deck, black camouflaging and an identification label on either side of the bow. Right (below) No. 672 O.S.A.2. Missile Launcher, produced to 1/200th scale and measuring 206mm. in length. It features four, independently-operating missile launchers, a rotatable gun representation, a rotatable searchlight and a mast/radar-scanner unit. Mounted on four Speedwheels, the O.S.A.2. is finished overall in deep grey with a light grey deck, white superstructure and black ancilliaries.



Above, No. 625 6-Pounder Anti-tank Gun, based on a British original widely used during World War II. The Dinky version features a realistic, highly-detailed casting, an elevating and rotating gun assembly, an armoured gun shield representation and movable trail arms. It also features a breech-loaded, shell-firing gun which is finger-operated. Produced to 1/32nd scale and measuring 159mm. in length, the model is finished overall in military olive green, and is ideal for towing behind the Bren-Gun Carrier.

Below, No. 622 Bren-Gun Carrier, produced to 1/32nd scale and measuring 125.5mm in length. Mounted on new-style, smooth-operating flexible tracks, the Carrier features a shell locker complete with lifting hatch cover, a towing hook, a whip-type aerial and two moulded figures – a driver and a gunner. Overall finish is in olive green with black ancilliaries, and the model carries appropriate identification labels.



AN INTERESTING IDEA .....

We recently received an interesting letter from Barry Twomlow, of 33 Oxford Road, Southsea, Portsmouth, Hants, who wrote to tell us that he and his friends have formed a little Dinky Toys Club: "We each take turns in displaying any new model we buy," says Barry, "And we also compete to see who can buy new releases first!" The Club meets at Barry's house, in a special room set aside for the purpose, and Barry is Club Chairman. Congratulations on a great idea, boys!

MECCANO CLUB ROUNDUP

All Meccano Clubs are invited to submit reports for these pages. Reports should be approximately 350 words long, and should reach us by the end of the second month before month of publication.

HENLEY SOCIETY OF MECCANO ENGINEERS
HENLEY SOCIETY OF JUNIOR MECCANO ENGINEERS

The joint meeting of the Henley Societies started at 3.00 p.m. with the afternoon meeting of the Juniors. Mike Nicholls gave a talk on his Atlas Digger, which immediately prompted conversation on the subject set for the competition to be held at the next meeting – the best Meccano model based on a Dinky Toy. The ME Award was won by Peter Roberts with his excellent model of the Eiffel Tower.

The Juniors presently have a shortage of funds, and so, after some discussion on the subject, it was decided that all future meetings should be held in the same hall and on the same day as the Senior meetings, in order to reduce costs. It was also stressed that adults were most welcome to attend from 3.00 p.m. onwards, and, of course, Juniors could stay on for the evening meeting – as, indeed, many often do!

The Senior Society's meeting began at 6.00 p.m., the first main feature of the meeting being a film entitled 'Atomic Energy', presented by Jack Partridge. The evening ended with a technical talk: Peter Wilson revealed the mysteries of making Jewellery by the "lost-wax" process – at one point, Bob Faulkner was found sneaking-off with an assembly of gold rings worth thousands of pounds!!!

On November 15, both Societies once more had the pleasure of a coach trip to the Holy Trinity Meccano Club meeting at Hildenborough, but the greatest achievement lately has been the visit of Jack Partridge to Keith Cameron, whose modelling efforts have been known to the Meccano world for some 40 years. Keith lives in such a remote part of the U.S.A. that he has only met one other Meccano modeller in many years – and he lived some 1,000 miles away!

In Henley, we don't rest on the success of the Annual Meccano Exhibition – Meccano is shown on every possible occasion. Visitors from London saw a fine display staged at Park Place School, Henley, on 28th September. On 12th November, Mike Nicholls and Geoff Wright gave a talk on Meccano Clocks at Wargrave Piggott Junior School and returned to the School for another Exhibition on 29th November.

Geoff Wright

HOLY TRINITY MECCANO CLUB

The fifteenth Meeting of the Holy Trinity Meccano Club was held in the Hildenborough Parish Church Hall on 15th November, 1975.

The election of Officers was the first item on the agenda. Tony Homden explained the problems he now faced in carrying out the Secretary's duty, and expressed his desire to relinquish the post. After some discussion, the post of Secretary/Treasurer was re-introduced and Frank Palin was duly elected. A new post – that of Chairman – was proposed to help run the formal part of the meeting, and Micheal Martin was elected to this position. The President's position, vacant since the death of Stuart Wilson, was filled by Tony Homden.

Following the A.G.M., the chairs were stacked, in order that everyone could browse around the many models on display and also those being demonstrated.

Bert Haliday gave an interesting demonstration of the versatility of his Meccanograph, whilst Noel Ta'bois, aware that batteries are a very expensive form of electric power, demonstrated a small mechanism designed to enable one to rewind cassette tapes by hand. Bill Roberts gave a demonstration of a partly-finished production line making chestnut paling fencing. To avoid filling the whole of the hall with machines, he scaled down the pales by using ice-lolly sticks bound with fine copper wire!

Keith Orpin demonstrated his 1/10th scale model of a U.S. Army 2½ ton Truck, Ray Senior an improved version of the powered Helicopter featured in the July MMQ, and Alf Reeve a fine Steam Roller.

Mike Nicholls brought along a number of exhibits, including a massive Meccano working demonstration model of the three main steam valve motions – Joy's, Stephensons and Walschaert's, and Ian Hemsworth spoke about his unfinished – but already massive – Coles Truck Crane. Still on the subject of cranes, Phil Bradley showed his biggest crane yet – all 80 lbs. of it!

Following the model demonstrations, the result of the voting for the Stuart Wilson Cup was announced: Keith Orpin won it for his previously-mentioned U.S. Army Truck, and Tony Homden, as our new President, presented Keith with the Cup and also gave him a miniature to keep as a momento of his well-deserved achievement.

Time getting on meant that members and guests took a last opportunity to circulate before showing their appreciation to the ladies, Mrs. Palin, Mrs. Senior, Mrs. Neill and Mrs. Schooler, and the others who kept us well sustained the whole afternoon.

The next meeting is planned for Saturday, 1st May 1976.

Frank Palin

Michael Martin.

IRISH MECCANO CLUB

The Autumn meeting of the Irish Meccano Club was held at the Egans Hotel, Birr, in October. Attandance – as at the last meeting – comprised the same four members, therefore it cannot be said that we are not holding our own!

Ron Wayte brought along his Traction Engine which showed just how good the design of the modern Supermodel series can be. Bobby Johnston's handiwork was quite apparent in his model of a Log Saw, which performed all the required motions from a remarkably-silent E15R Motor. Our junior member, David Sheridan, brought along an Atlantean Bus and a Mobile Crane, both of which were put together with considerable skill and showed that he will be a force to be reckoned with in the future! Terry McCabe showed a partly-completed "Back Acter" Digger: he also had a supply of photographs and slides, lent to him by Bill Charleson of the Pennine Meccano Guild, that gave everybody an idea of what is happening at the many exhibitions around England.

Various topics were discussed, ranging from the scarcity of spare parts, to proposed models. Some members have been waiting for upwards of a year for certain items, and while sympathy with the dealers position was felt, frustration was apparent all around. Nevertheless, it is good to see the Company doing well!

The next meeting will be held in March, when, hopefully, results of winter labours will be in evidence.

The Club wish to thank all those who gave them help and encouragement to form and organise the Club, and despite various setbacks, it is generally felt that it was all worthwhile.

Terry McCabe

MIDLANDS MECCANO GUILD

The 17th meeting of the Midlands Meccano Guild was held in Alcester on Saturday, 4th October, 1975.

The hall doors were opened at 9.30 a.m. and from then up until 2 p.m., members were busy setting-up their models; in no time at all, the hall was filled with the most varied selection of models seen outside the Henley Exhibition. The general standard was so high, that it was nigh on impossible to tag any model as outstanding – each was either a very well-built reproduction, or an excellent freelance model! Several members gave a verbal description of their own particular model, including the younger members who arrived in force – as usual!

The A.G.M. was extremely successful, and new Officers were elected: Ernest Chandler vacated the Chair in favour of Stephen Lacey, and Phil Ashworth asked to be relieved of his post as Secretary in order that the Officers should all be near the centre of operations. Ernest Chandler accepted the post.

The A.G.M. took up so much time that the planned slide show was abandoned. This, however, left ample time for members to spend milling around the models on display and also for tea and biscuits. The meeting finally ended at 8 p.m.

On reflection, the October meeting was the most successful to date, and I would like to thank all who made it possible.

Earnest Chandler

NORTH EASTERN MECCANO SOCIETY

Last October, the N.E.M.S. mounted a display of advanced Meccano models in a large shop window in the centre of Darlington. The display attracted an immense amount of interest from both the public and the Press, with a moderate response to new membership. Indeed, the Northern Echo featured a photograph and lengthy article which put the Society on the map, as it were. The resultant publicity attracted the attention of Radio Newcastle, who, at the Secretary's home, taped a 5-minute recording on the subject of the Club's aims.

Models on show included two Block-setting Cranes, a Fairground Dive Bomber, a "Sea Quest" Drilling Rig, a "Galloping-horses" Roundabout, a Railway Breakdown Crane and, of course, smaller items such as Gearboxes, etc.

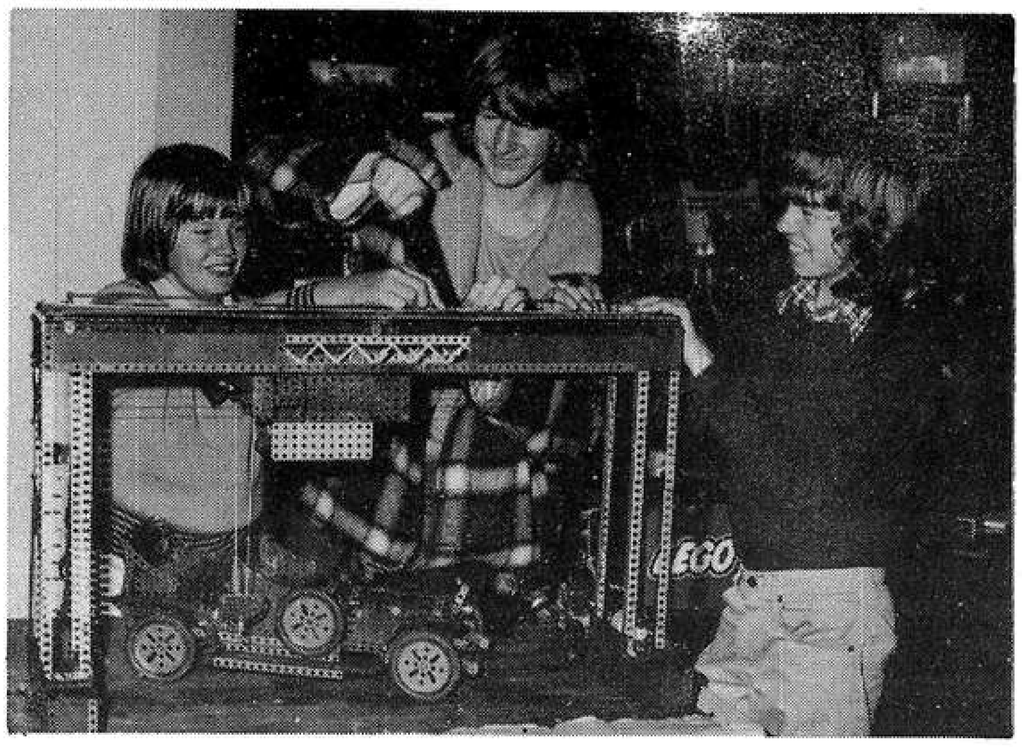
A second window display was set-up in a shop in Northallerton, North Yorks., by the N.E.M.S. Chairman, Chris Barron. This particular window featured a Block-setter, a Breakdown Crane and some smaller items. In addition to models, window cards were displayed all over the area with a view to attracting more enthusiasts to the ranks!

Following discussions on the window displays, the October meeting then centred on new members, who were formally welcomed to the Society. The main theme of the meeting, however, were obsolete parts, which were in great abundance and of extreme interest.

Most members are now busy dismantling their models from the window displays, in order to be able to begin their next projects.

Many more members are still needed before a *large* exhibition can be staged in 1976, and, therefore, would interested northern Meccano enthusiasts please contact the N.E.M.S. Secretary, Frank Beadle, at 'Greytyles', Yoredale Avenue, Darlington, County Durham, DL3 9AN. Telephone: 56097.

Frank Beadle



Three young Members of the Maylands Meccano Guild adjusting a Gantry Crane which was on display at an International Toy Fair at the Belmont Forum, as reported in the last MMQ. Photograph courtesy of W.A. Newspapers.

NORTH WEST MECCANO GUILD

The October meeting of the North West Meccano Guild was another very successful get-together, with 17 members being able to make the journey, and bringing between them a good selection of models.

Following the committee meeting, modellers were invited to give a brief talk on their constructions; Stephen Pashley showed a splendid model of a Mobile Crane, complete with travelling, hoisting and luffing motions, all being driven by *one* Power Drive Unit. Stephen received no help at all from his father in building the model, and received a well-earned round of applause for his efforts. Stephen's father, Mike Pashley, then gave a preview of his next Supermodel by displaying a massive Excavator base.

Graham Brown demonstrated a Dump Truck which featured powered back-tipping in addition to superb chassis detail and sprung suspension. A model American Coupe, by Martyn Brown, was also on show and featured twin motors, 4-speed and reverse gearbox and the best suspension the Secretary had ever seen! Also on show were a Meccanograph by Hal Hussey, a SML 32 Twin-cylinder Steam Engine by Norman Mason, a Dockside Crane by Alan Grimshaw, a nearly-completed Hammerhead Crane by Martin Cassidy, an American Car by Michael Walker and a Steam Engine by Sidney Whiteside.

Grenville Halliwell demonstrated the many working features of his heavy Breakdown Truck: these included 6-wheel drive, a powered winch and "working" suspension. John Nuttall – with his large scale model of the narrow gauge "Tallylynn" Locomotive – made a success of an unusual subject!

All in all, it was another memorable Meccano meeting!

Michael J. Walker

PENNINE MECCANO GUILD

On 27th September, 1975, the Pennine Meccano Guild and its sister club, the North West Meccano Guild, participated in a model exhibition organised by the Yeadon Scout Group and held in Yeadon Town Hall.

Both Guilds shared exhibition space, the front table being devoted to a display of advanced motor vehicles. Mike Walker and Martyn Brown both showed superbly-detailed American Cars on 4" rubber tyres. Heavy vehicles were represented by the Secretary's Scammel Fairground Tractor and Graham Brown's Aveling Centaur Heavy Dump Truck built to the scale of 6" ashtray tyres.

Cranes were also well represented at Yeadon: Norman Mason's Blocksetter, Mike Pashley's Giant Marion Shovel and two level-luffing Cranes, one by Alan Grimshaw (exhibition organiser) the other by John Bader. All worked smoothly throughout the afternoon. A miniature Blocksetter by Stephen Pashley and a Baltic Tank Loco by Norman Chapman completed an impressive display of Meccanorama!

The P.M.G.'s third meeting (November 8th) saw many of the aforementioned models on display again and gave members the opportunity to examine the exhibits in closer detail. The premises at Broadoak Cricket Club just managed to contain the twenty members and guests amid much popping of flash bulbs, whirring of motors and munching of Edna Chapman's excellent sandwiches.

Norman Mason had exchanged his Blocksetter for a beautiful S.M.L. Horizontal Steam Engine in newly-minted Meccano, and John Bader's Crane had become a Grandfather Clock. Alan Grimshaw brought his Octupus Roundabout on the bus from Yeadon to Huddersfield! John Hornsby showed the smallest 4-movement crane gearbox in the world, built into a miniature "Big Geordie" ("small Geordie"?), all movements of the original being driven by a tiny electric motor. The last crane on show at the meeting was a modified M.M. Tower Crane by Ian Baxter. My small children left the meeting happily clutching designs drawn on David Fairbank's model of the Konkoly "Guilloche" Meccanograph.

The Pennine Meccano Guild continues to build up its membership, and a full-scale Meccano exhibition is planned for September 1976. Meanwhile, the Guild will be exhibiting at Clitheroe in April, details of which can be found elsewhere in the magazine.

Bill Charleson

(That "smallest 4-movement crane gearbox in the world" sounds extremely interesting. Any chance of details for the MMQ? – Ed.)

SOCIETY OF ADVANCED MECCANO CONSTRUCTORS

A very successful meeting was held by the S.A.M.C. at Hall Green Baptist Church Hall on Saturday, 27th September 1975.

The doors were opened at 11 a.m., and, by midday, models were in operation: a start to the afternoon's proceedings was made at 2 p.m., when the long-distance travellers had arrived.

Fraternal greetings from overseas members were read out by Bert Love, and some apologies from U.K. members were added. Bert started the ball rolling by showing a range of reconditioned dealers' demonstration models (most restored from scrap) pointing out the chief areas of wear, and the reconditioning required. The membership then moved around the hall where there was adequate space to view all the models on show in comfort and to see them being demonstrated without hindrance.

Some of the children, and their parents, enjoying a display of working models exhibited by the Stevenage Meccano Club at the Hillcrest School for Mental and Handicapped Children, last September.

Museum pieces in immaculate trim by David Whitmore, a mystery "manual cover model" by Jim Gamble and another clock "first" by Pat Briggs set the standards. Novelty was a feature of Barry Clay's Stagecoach and Autogiro, whilst compactness was a feature of John Palmer's Diesel Loco.

Roger Wallace showed his Giant Block-setting Crane of mammoth proportions, Roger Lloyd showed how the old Meccano Electric 4 volt Motor was well up to the job of driving his old Supermodel Warehouse and Michael Martin showed a variation of a designing machine plus a compact Gearbox for mechanical excavators. Ralph Clark had his completed Pacific Loco, Chris Beckett showed a high-speed remote-controlled Tank and his father brought along a fine Lancaster Bomber with driven propellers, and a 10-ton "blockbuster" bomb.

Bert Love's No.10 Set Electric Crane was demonstrated and partly dismantled to show the turntable and geared drive. Clive Hine's superb Fairground Ride took nearly an hour to assemble as it closely followed the travelling style of its prototype: as usual, it worked through its rise and fall programme automatically and faultlessly! Many other noteworthy models were on show, but, unfortunately, space precludes mention here.

Meetings are always too short to do such fine Meccano modelling full justice and time simply flew. Tea and refreshments were served at 4.30 p.m. and again at 7.00 p.m,, just before members reluctantly took their leave to face their long journies home.

B.N. Love

SOUTHERN CALIFORNIA MECCANO CLUB

Almost all libraries in the Los Angeles area have display cases in which they allow groups or individuals to exhibit free – for one month – examples of their hobby or interest, and the S.C.M.C. had use of these facilities in the Carson Public Library, last October.

The Club's local Meccano agent kindly supplied us with handout literature, and the supplies at the exhibit had to be replenished daily! The Club had use of a large and a small display case, the small case featuring past issues of the Meccano Magazine, the Meccano Engineer, the Meccanoman's Journal and examples of current manuals, whilst the larger case was filled with models. Models on show includes a motorised 7-man Henley Rowing Skiff, a motorised overhead pick-up Railway Engine, a large Vintage Railway Steam Engine, a motorised Joy-Wheel Rider and a motorised Port Crane which automatically picked up steel ball bearings, with an electromagnetic grab, and lifted them over to a hopper which they rolled down to a pick-up point.

Of special interest, was a competition which invited members of the public to guess the number of parts required to build a Meccano Horse and Chariot model which was on display. First prize was a No. 1 Set, with Pocket Meccano Sets for the runners-up. Curiously enough, a third of the entrants were girls and, indeed, at the time of going to press, the two runners-up were girls!

Jack Taylor

STEVENAGE MECCANO CLUB

On 30th August, 1975, the Stevenage Meccano Club made its 4th visit to the Henley Meccano Exhibition. A coach was hired to convey 38 members and their models – plus several guests – to the annual event.

Roger Le Rolland took along his model of a French Steam Car (designed by Nicolas Cugnot in 1770), a Traction Engine and his famous Rolls-Royce. Peter Neville took along a total of five models, and I would also like to mention Paul Blythe and Ian Davies who both took models along as well. The largest model was a 1/6th scale Evening Star Locomotive built by our new member, Terry Hope, Terry has attended a S.M.C. meeting since Henley, and has told us the full story behind this model. One little girl was so fascinated by an animated Caterpillar model by Peter Brown, that she stood and watched it for no less than five hours! We all had a most enjoyable day, and I should like to thank each and every member for his efforts.

On 30th September, we were asked by the Hillcrest School for Handicapped Children, in Dunstable, to show some of our working models. Geoff Pratt of Luton gave a film show (Meccano and 'Tom and Jerry'), and Michael Edwards of Watford took along his model Bus and Austin car. Fourteen members attended, and every one throughly enjoyed the evening.

Bob Faulkner and Roger Le Rolland have kindly made donations to the Club as prizes for competitions which will be held in the near future. Another of our members – Jack Farrington – is very busy, as he has been asked to provide models for use in Father Christmas Grottos at various local church functions.

It is with regret that we have had to say farewell to John Foord; he has moved to Bristol to take-up a new job, and we all wish him every success, John has written our club reports for some time now, and we should like to extend our sincere thanks for all his efforts. Taking John's place as one of our Group Leaders, is 15 year old Stephen Kuc, who has been a club member since 1971.

I should like to take this opportunity to thank all members for their hard work and comradeship during a busy 1975. Well done lads!

NEW MEMBERS

Adults: Terry Hope (Wellingborough), Ian Davies (Swansea), Michael Edwards (Watford), Albert Proud (Letchworth), Brian Edwards (Bedford).

Boys: Stuart McNeil (Walkern, Herts), Paul Wallace (Letchworth), Nigel Williams (Stevenage).

Dennis Higginson

A Meccano enthusiast in S.E. London has advised us that he would like to form a Meccano Club in the area if response is favourable. The gentleman in question is Christopher Warrell, and anybody interested should contact him at 41 Beechill Road, Eltham, London, SE9 1HJ.

CHANGE OF ADDRESS

Although we do not have a report from the Transvaal Meccano Guild this issue, we have been advised that Peter Matthews, Secretary of the Guild and also curator of the 'Meccano Museum', has recently moved both his family and the Museum to larger, more suitable premises at 119 Vorster Avenue, Glenanda South, Johannesburg 2091, South Africa.

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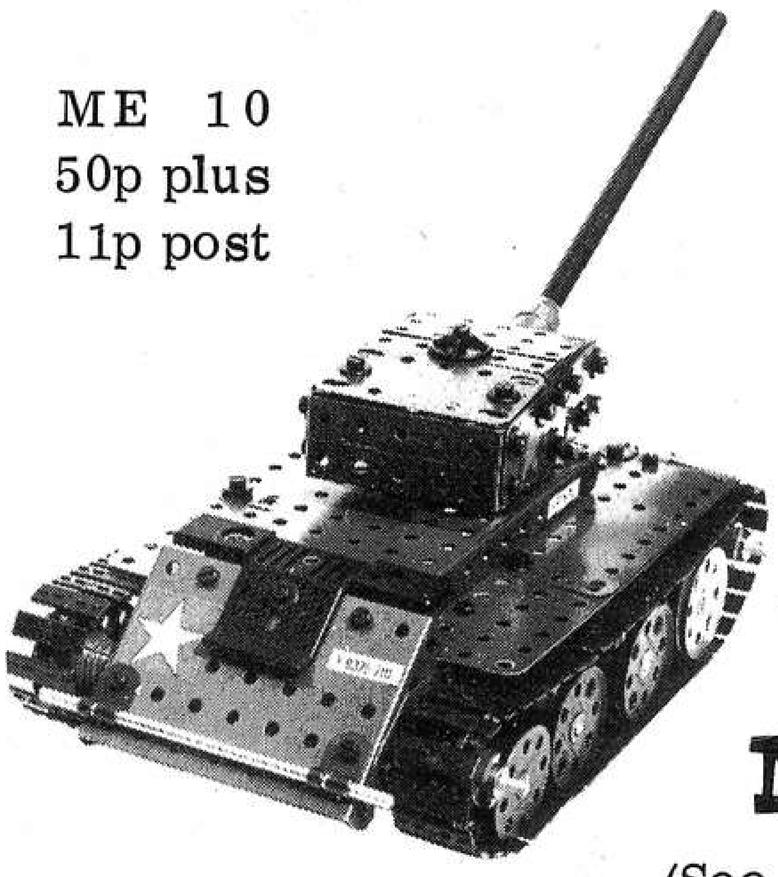

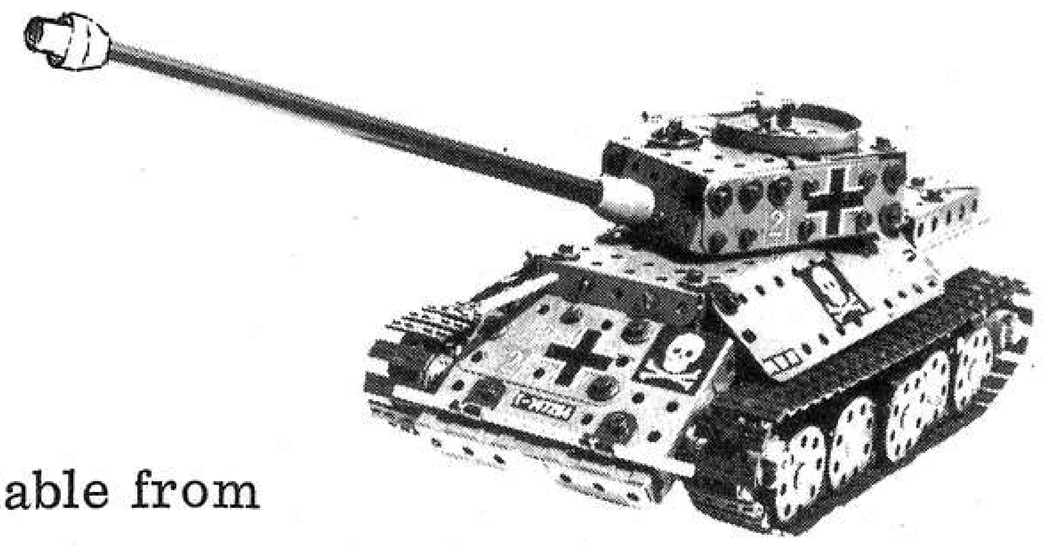

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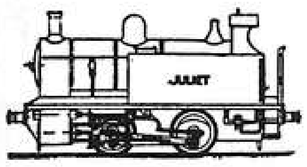

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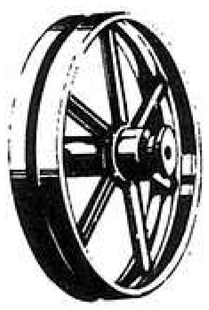

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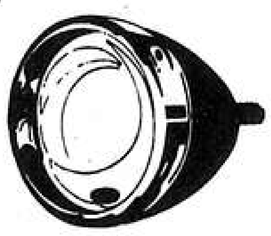

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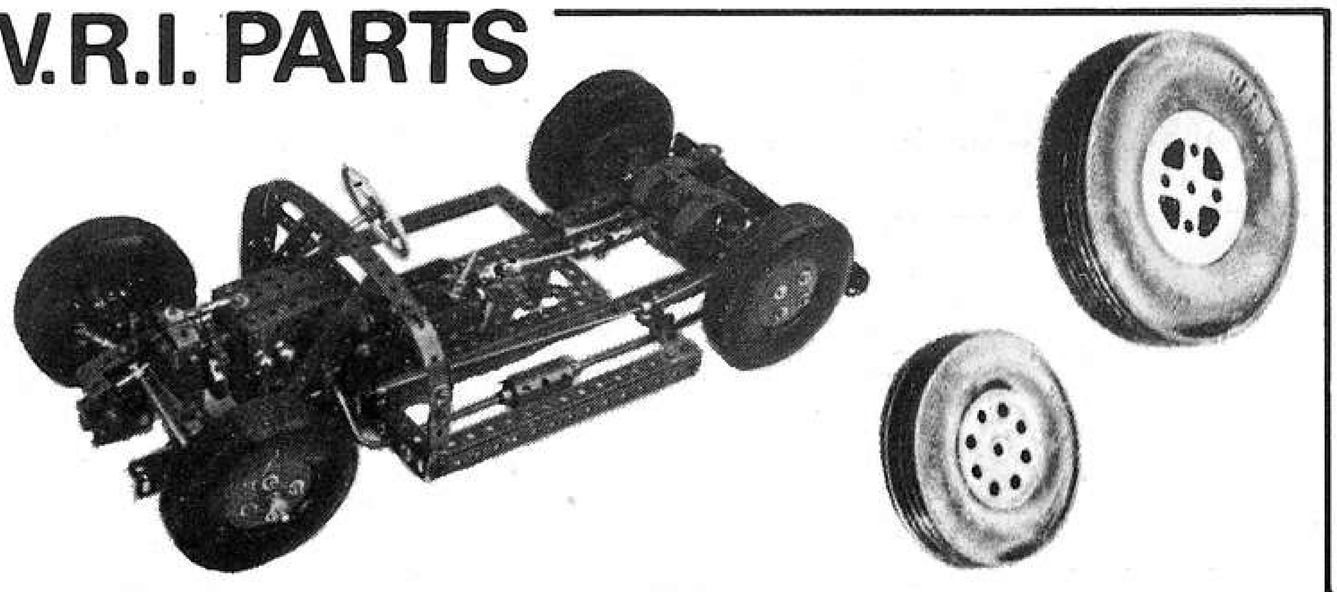

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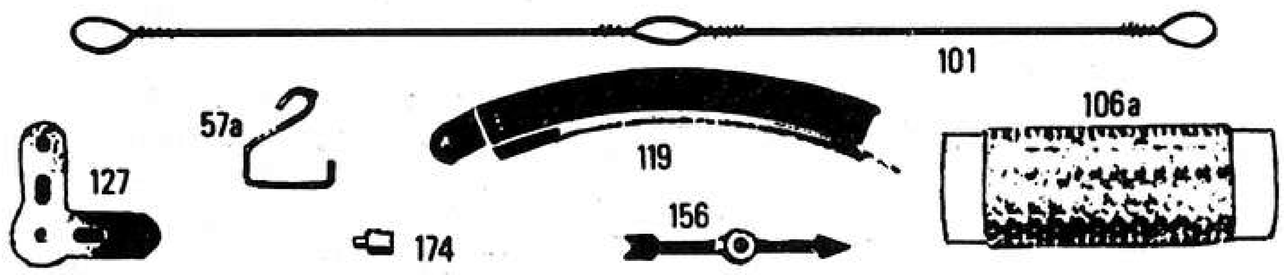

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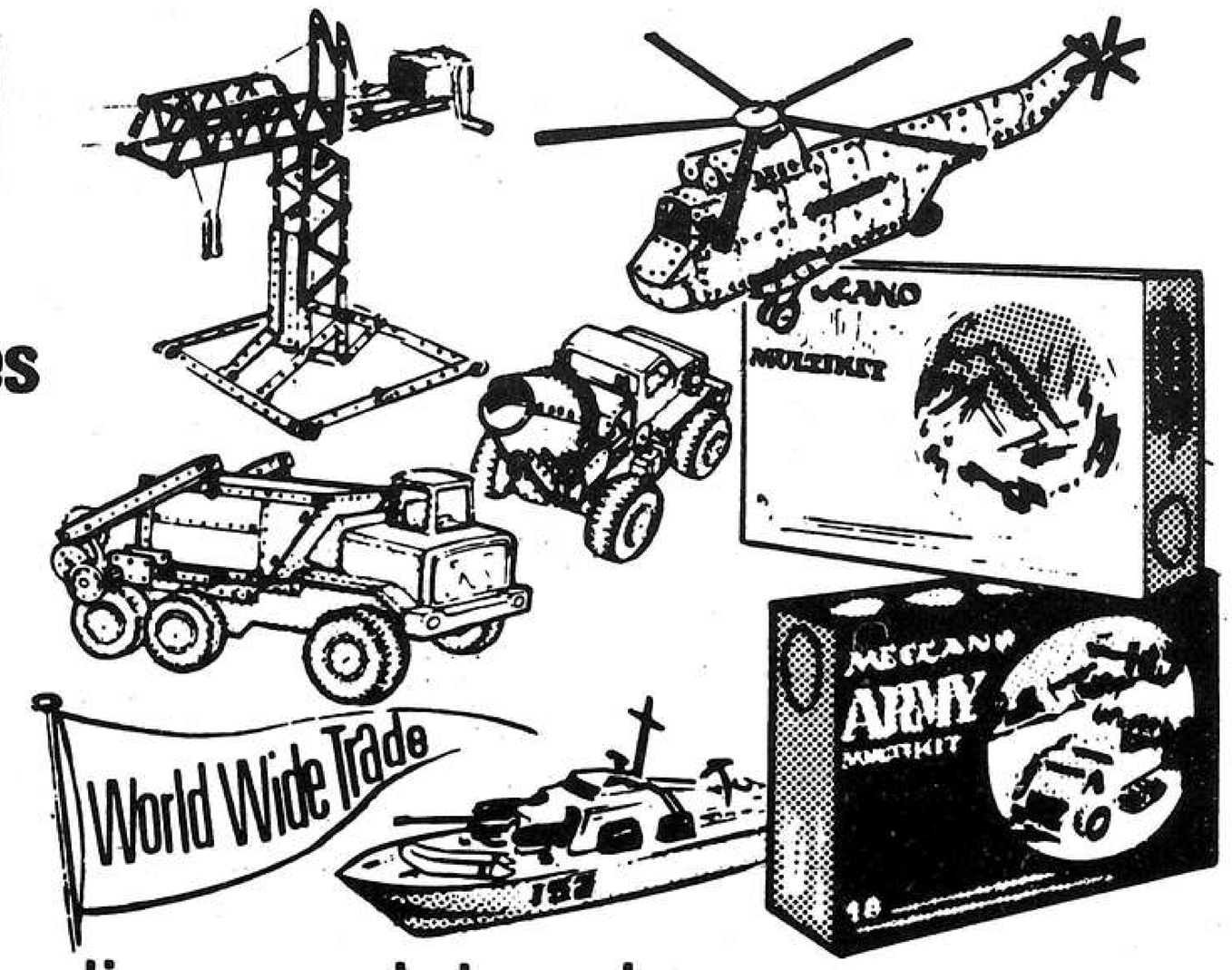

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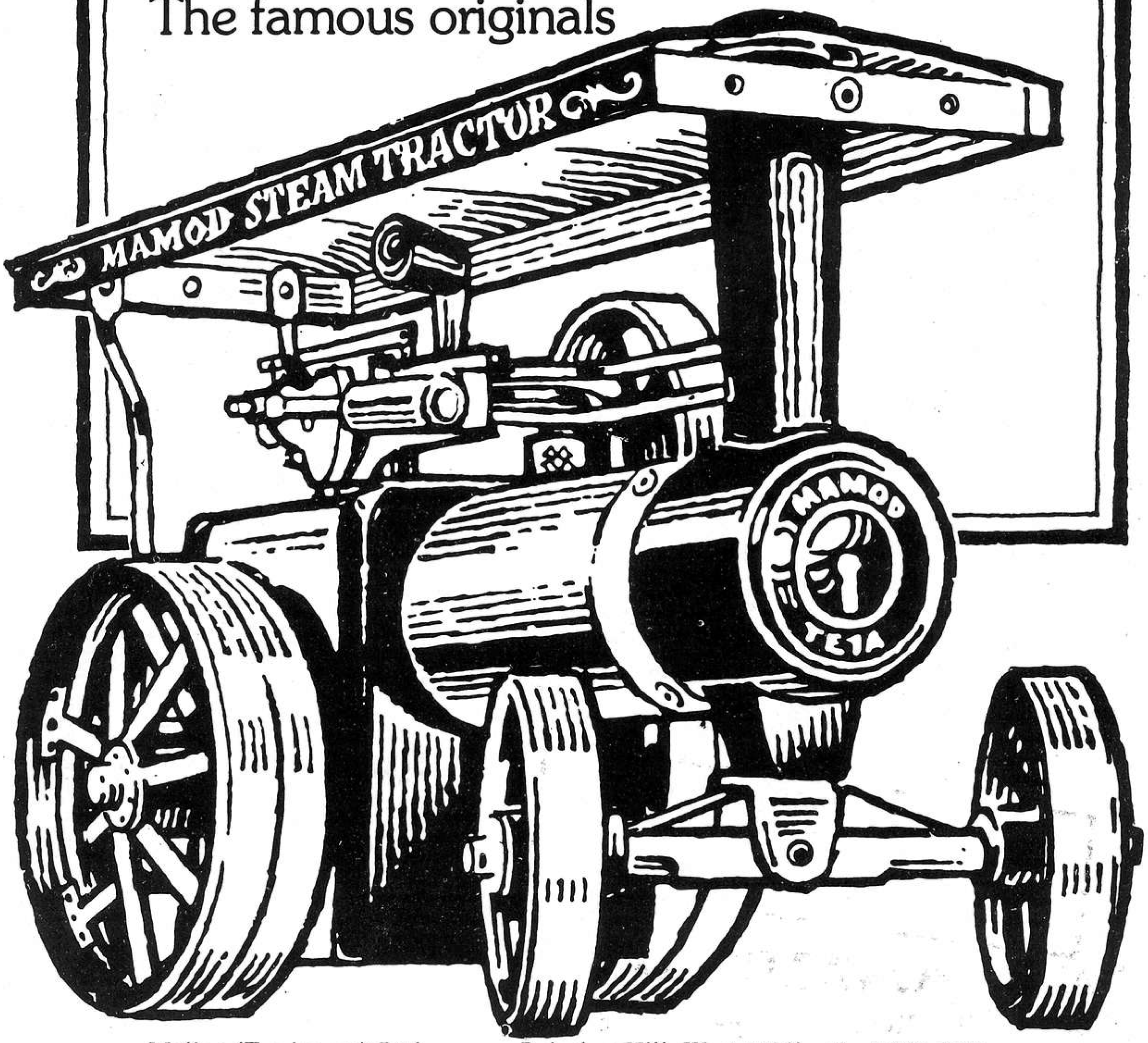

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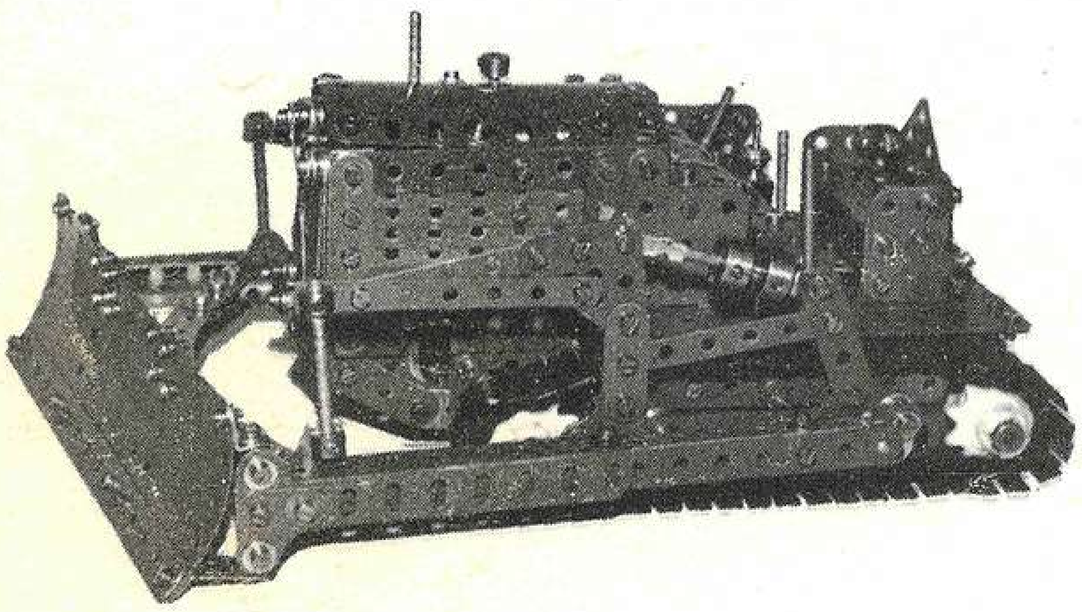

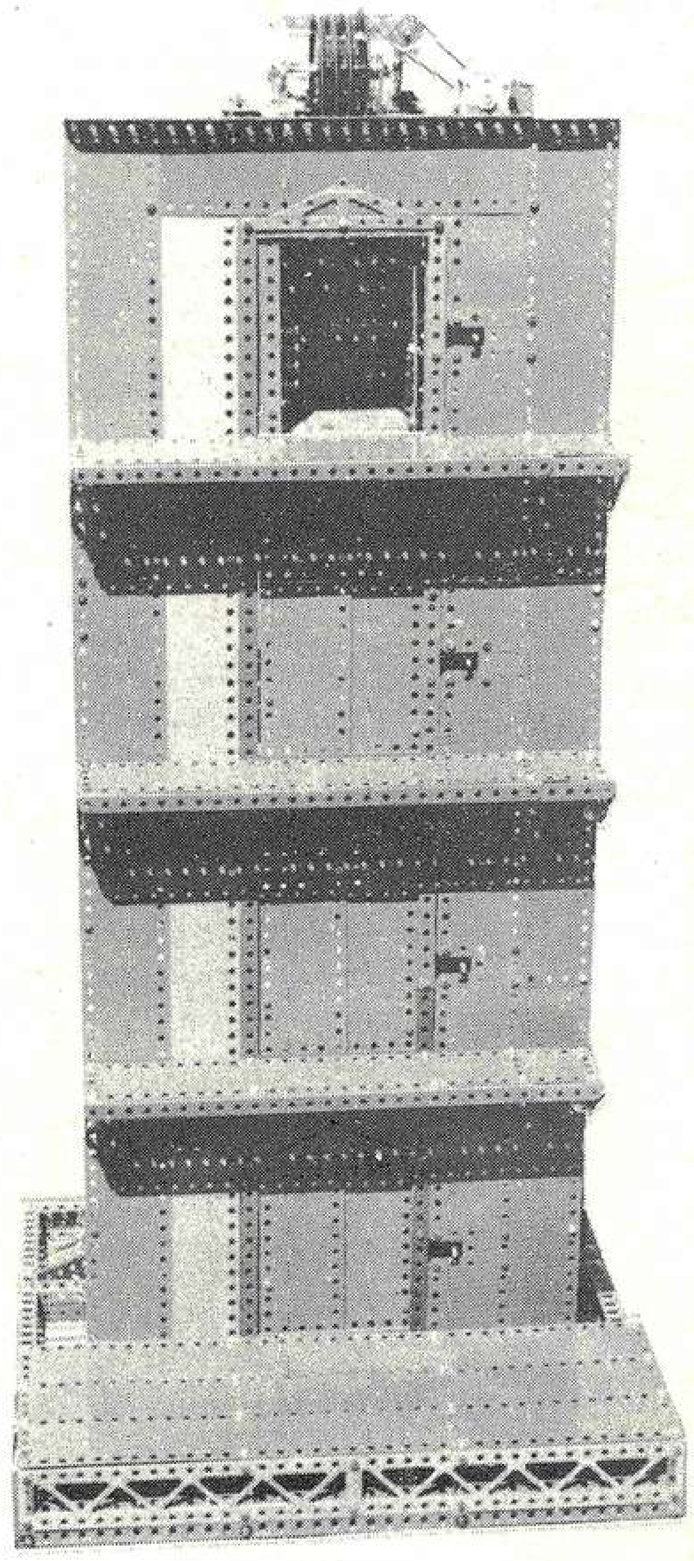

THESE TWO "new-look" booklets are the first in a completely revitalized series of modern Supermodels. They include full photographic coverage, instructions, and parts list, and are printed on art paper in A4 format. (The previous series 1-56 as Meccanoman's Club Supermodel Leaflets will continue to be available in their traditional duplicated form.)

DON'T MISS THE NEXT TWO

Nº59 Orrery
Nº60 Paper Folding Machine

AVAILABLE FROM M.W. models

165, Reading Road, Henley-on-Thames,
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Nº 57 Blaw Knox Bulldozer	75p
Nº 58 Automatic Elevator	£1-00
Postage for one Modelplan	9p
Postage for two Modelplans	11p

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